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A Long Journey to Worker Protection

The Occupational Safety and Health Act of 1970 ... 50 Years and Counting












Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Cover: The photographs on the cover of the *NIOSH Bibliography of Communication and Research Products 2019* represent workers from the history of the United States whose dedication to their jobs and struggles with workplace safety and health have inspired federal, state, and local government action to protect workers in all vocations. The photographs, most taken by acclaimed photographer Gordon Parks, represent all sectors within the National Occupational Research Agenda. These sectors include the following:

- Agriculture, Forestry and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Oil and Gas Extraction
- Public Safety
- Services
- Transportation, Warehousing and Utilities
- Wholesale and Retail Trade

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NIOSH

Bibliography of Communication and Research Products

2019

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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April 2020

Foreword

Congress passed the Occupational Safety and Health (OSH) Act in 1970 so workers would no longer carry the heavy burden of workplace risk. Before its passage, tens of thousands of American lives were lost at work each year. Survivors of workplace injuries paid a heavy toll in lost wages, pain, and suffering.

The OSH Act created the National Institute for Occupational Safety and Health (NIOSH), giving it authority to conduct occupational safety and health research. We were gifted a mission to pursue safe and healthful work conditions for all workers across the United States through scientific endeavors, leading to recommendations, guidance, and many other publications. The act was passed to ensure that all workers have a safe and healthy workplace. It was a promise made to both current and future generations of workers.

Fifty years since passage of the OSH Act, we continue to strive for excellence. This bibliography represents the scientific endeavors and communication products NIOSH has achieved during 2019 in pursuit of excellence. Each year, a new edition of this bibliography marks a year of progress.

Some old challenges remain and new challenges are emerging. This anniversary gives us an opportunity to reflect on our past and look to the challenges the future of work presents.

Please explore this bibliography and share it freely in workplaces and with our colleagues in the occupational health and safety community.

John Howard, M.D.
Director,
National Institute for
Occupational Safety and Health

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OSH Act at 50: A Special Report

50 Years Ago ... A New Era for Worker Health and Safety

The Occupational Safety and Health (OSH) Act of 1970 promotes safe and healthful work conditions for all working men and women, regardless of their industry or job. The OSH Act created the National Institute for Occupational Safety and Health (NIOSH), a part of the Centers for Disease Control and Prevention in the Department of Health and Human Services. The act created the Occupational Safety and Health Administration (OSHA) and placed it in the Department of Labor. NIOSH is an independent research program, separate from the regulatory OSHA, which sets and enforces occupational safety and health standards, promotes safety and health training and education, and works with stakeholders to develop innovative and creative approaches to preventing workplace hazards.

The Occupational Safety and Health Act of 1970

established NIOSH to research health and safety, and OSHA to enact regulations.

5 **Section 5 requires employers to provide a safe and healthful workplace.**

8 **Section 8 requires employers to notify OSHA in 8 hours if a worker dies or if three or more are hospitalized from a work-related incident.**

The OSH Act separated the two agencies to give NIOSH independence to generate objective scientific research findings in the field of occupational safety and health. The OSH Act also provided NIOSH with right-of-entry authority to make inspections and question employers and employees. NIOSH was charged with conducting education programs, providing safety and health specialists, and developing information on the proper use of safety and health equipment. The OSH Act intends for NIOSH-produced research to inform OSHA safety and health standards.

To better understand the OSH Act, the following sections explore the reasons why it came to be.

Preventable Worker Deaths and Illnesses Through the Years

Roots of Tragedy

The roots of U.S. occupational safety and health regulation date back to the late 19th century. It was all too common then for state labor bureaus to report on uncommon and horrific industrial tragedies [MacLaury 1981]. The large loss of life due to events that were wholly preventable spurred a labor movement for social reform. In 1877, Massachusetts passed the first factory inspection law, requiring factory owners to place guards between workers and machinery and to provide protection on elevators and fire exits [Massachusetts Bureau of Statistics of Labor 1870–1916]. Other states followed suit, but not enough to stop hundreds of thousands of lives from being lost at work over the century that followed.

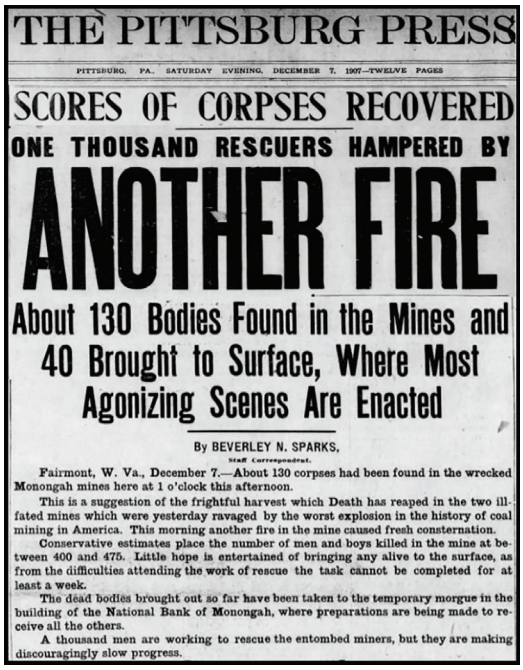
Photo by Library of Congress

A schooner is docked at a Gloucester port in 1900. The top-heavy vessels brought danger to the fishing profession.

The story of labor during the late 19th century up until the passage of the OSH Act of 1970 is a troubling one, riddled with industrial accidents and tragedies.

1873: Gloucester Fishing Fleet

In the late 1800s, an abundance of Atlantic cod led to the rapid expansion of the fishing fleet in Gloucester, Massachusetts. The fleet numbered about 400 vessels, with a mostly immigrant, largely Portuguese crew. Like others in the fishing industry, Gloucester fishermen had a high mortality rate. Workers who fished from schooners, top-heavy vessels more likely to capsize in rough seas, often failed to return home from expeditions. From 1866 through 1890, the fishing fleet in Gloucester lost 2,450 men. A particularly devastating loss happened August 24, 1873, when one storm took the lives of 128 men, along with nine fishing vessels.



THE PITTSBURG PRESS

PITTSBURG, PA., SATURDAY EVENING, DECEMBER 7, 1907—TWELVE PAGES

SCORES OF CORPSES RECOVERED

ONE THOUSAND RESCUERS HAMPERED BY

ANOTHER FIRE

About 130 Bodies Found in the Mines and 40 Brought to Surface, Where Most Agonizing Scenes Are Enacted

By BEVERLEY N. SPARKS,
Staff Correspondent.

Fairmont, W. Va., December 7.—About 130 corpses had been found in the wrecked Monongah mines here at 1 o'clock this afternoon.

This is a suggestion of the frightful harvest which Death has reaped in the two ill-fated mines which were yesterday ravaged by the worst explosion in the history of coal mining in America. This morning another fire in the mine caused fresh consternation.

Conservative estimates place the number of men and boys killed in the mine at between 400 and 475. Little hope is entertained of bringing any alive to the surface, as from the difficulties attending the work of rescue the task cannot be completed for at least a week.

The dead bodies brought out so far have been taken to the temporary morgue in the building of the National Bank of Monongah, where preparations are being made to receive all the others.

A thousand men are working to rescue the entombed miners, but they are making discouragingly slow progress.

Photo by The Pittsburg Press

The Pittsburg Press announces in giant letters that another fire has claimed lives at the Monongah mine. The blast killed 362 miners in 1907, a year when four mine explosions killed 692 mine workers.

1907: Monongah Mining Disaster

December 6 is St. Nicholas Day, a significant religious holiday, especially for some immigrants. The worst mining accident in American history also happened that day. The disaster occurred in two mines, Nos. 6 and 8, of the Fairmont Coal mine in Monongah, West Virginia. At about 10:20 a.m., a massive underground explosion destroyed the entrance to the mine. Metal, timber, and rock flew into the air. After the blast, four miners walked out and another was found alive hours later. Eventually, 362 bodies of boys and men were recovered. Most were killed instantly, while others suffocated or were poisoned by the gases in the mine. The dead were largely immigrants. The exact cause of the explosion is unknown; however, a coroner's jury at the time concluded that a dynamite blast or the ignition of blasting powder set off the explosion that ended so many lives.

1911: Triangle Shirtwaist Factory Fire

In 1911, the Triangle Fire started in a scrap bin in a clothing factory occupying the eighth-through-tenth floors of the Asch building in lower Manhattan. Hundreds of mostly young, immigrant women were working at the time. A manager discovered the fire and tried to put it out, but the hose had rusted closed. Without a sprinkler system, the fire quickly spread. Management kept the exit doors locked, preventing access to stairways. As workers fled down the single fire escape, it collapsed. Firefighters tried to reach the factory floors, but their ladders were too short. The official death count from the Triangle fire is 146. Though many died by fire and smoke inhalation, some were crushed from the pressure of the crowd as they tried to open the locked exit doors. Others were crushed when they jumped down elevator shafts or out windows to escape the flames.

Photo by Library of Congress

Families of the victims of the 1911 Triangle Shirtwaist Factory fire gather outside a morgue.

1929: Cleveland Clinic Fire

During a particularly busy morning on May 15, 1929, when patients filled the Cleveland Clinic Foundation building, one massive explosion was followed by another. Three-to-four tons of nitrocellulose X-ray film stored in the basement had ignited and exploded. The heat source causing the ignition was likely a light bulb or steam pipe. The explosions forced deadly fumes through a pipe tunnel and ducts system,

Photo by Cleveland Clinic to Wikimedia Commons

Highly flammable X-ray film sparked a 1929 fire at Cleveland Clinic that caused 123 deaths.

reaching every room in the building. Caught unaware by the poisonous vapor, most inside the clinic collapsed either where they were or while trying to escape. Fumes and flames filled the stairwells. There was no sprinkler system. Of the 234 patients and employees in the clinic at the time, 123 died from inhaling the noxious fumes. Most died immediately, while some died days later. A first responder, Officer Ernest Staab, died days after pulling 21 people from the building.

1930s: Hoover Dam Construction

In 1928, then President Coolidge authorized the Boulder Canyon Project to build what would later be known as the Hoover Dam. Although eventually named as a National Historic Landmark and an engineering "wonder," the new dam came with a high human cost. The official death count during construction is reported at 96 "industrial" fatalities: deaths caused by falls, rock slides, heat, blasting, electrocution, strikes by heavy equipment, drowning, and others. Unofficial numbers include dozens more fatalities, as workers also died while surveying the land, laying miles of electrical lines, and constructing rail lines to bring materials. Other worker deaths were considered "nonindustrial fatalities." Most of these were logged by the company as caused by pneumonia, but families disputed that claim. They believed the deaths came from carbon monoxide exposure, and they claimed the employer logged pneumonia as the cause of death to avoid a death benefit payment.

1947: Texas City Industrial Disaster

On April 16, 1947, a freighter, the S.S. Grandcamp, was docked at the Port of Texas City. The crew loaded its cargo, which included about 2,200 tons of the fertilizer ammonia nitrate. At about 8 a.m., the crew discovered a small fire in the hold. At the captain's direction, workers tried to suppress the flames without water because water would ruin the cargo. The fire grew, and the colorful smoke attracted onlookers. At 9 a.m., the Texas City volunteer fire department arrived. At 9:12 a.m., the ship exploded. The force of the violent blast leveled about 1,000 buildings, including oil storage facilities, railway warehouses, and hundreds of homes. Most workers and bystanders were killed instantly. This included the chief and all but one of the firefighters. A nearby Monsanto chemical plant was destroyed, with 234 of 574 workers killed that day. The explosion also started fires in nearby ships. About 15 hours after the S.S. Grandcamp explosion, another freighter loaded with ammonia nitrate exploded, and two more died. In total, almost 600 people died and

Photo by Library of Congress

A damaged ship lists amid the blast devastation at the 1947 Texas City naval yard scene.

thousands more were injured in one of the largest industrial disasters in history.

1964: C.P. Baker Drilling Barge Accident

In the early morning hours of June 30, 1964, a 2-year-old C.P. Baker drilling barge capsized in the Gulf of Mexico. Constructed like a catamaran with two 260-foot hulls, the vessel was drilling the 22nd well of its career. Around 3 a.m., water surrounding the vessel began to bubble, shooting up between the two hulls with such force that it entered the main deck. In 5 minutes, an explosion on the barge engulfed the entire vessel. A blowout, the uncontrolled release of crude oil from a well after pressure control systems fail, triggered the disaster. Thirty minutes later, the boat capsized. Of the 43 crew on board, 21 died and 22 were injured.

More about the long history of worker deaths, injuries, and illnesses appears in the timeline on pages xii and xiii.

How the OSH Act Passed in a Bipartisan Congress

In 1965, the Public Health Service called for a major national occupational health program to protect the safety and health of the U.S. workforce. Under President Lyndon Johnson's direction, the Departments of Labor and Health, Education, and Welfare were tasked with developing a legislative proposal. In 1966, the taskforce became gridlocked over which department would lead the new program.

A year later, a health tragedy among uranium miners broke the gridlock. More than 100 miners had died of lung cancer and thousands more were ill. The danger of radiation exposure among miners was known in 1947; however, no federal agency had clear jurisdiction [MacLaury 1981].

In 1968, President Johnson called on Congress to enact the Department of Labor's version of the job safety and health program. Johnson argued that each year more than 14,000 workers were killed and 2.2 million workers were injured on the job due to a lack of standards, poor enforcement of regulations, shortages of safety and health personnel, and a patchwork of ineffective federal laws [Johnson 1968].

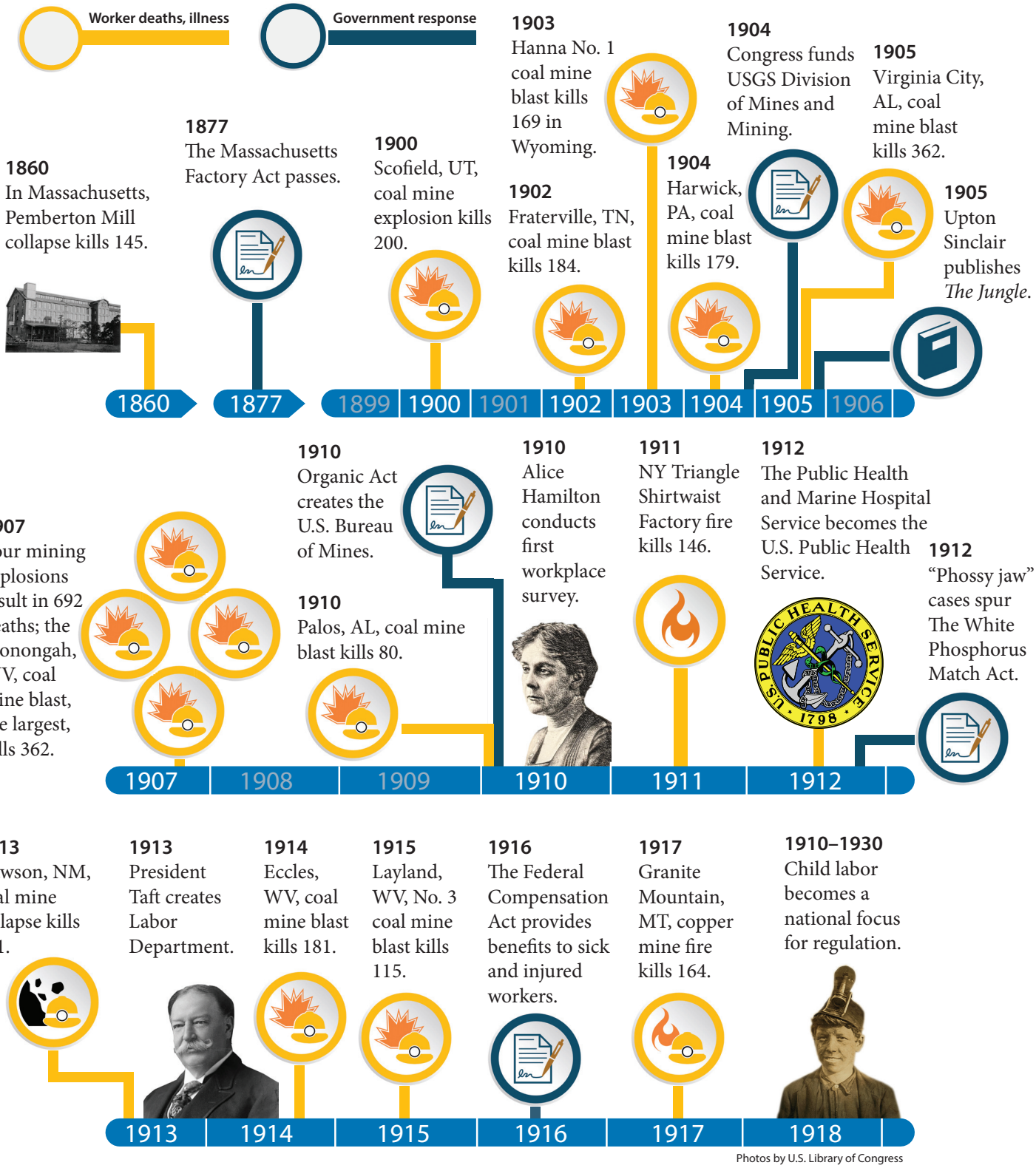
Congressional committee hearings on the Johnson proposal began in February 1968. Organized labor supported the bill. Industry opposed it. Industry campaigned that the bill would undermine states' rights. Congress never voted on it. Violence in inner cities and the Vietnam War diverted the United States. The Johnson proposal failed.

In 1969, President Richard Nixon gave Congress his vision of a job safety and health program. Nixon's plan would establish a five-person board to set and enforce job safety and health standards. The Labor Department would be limited to inspecting workplaces, and the Health, Education, and Welfare Department would conduct research. Industry and the U.S. Chamber of Commerce strongly supported Nixon's plan. The new proposal was not widely popular in Congress, particularly among Democrats. One of the most compelling arguments against Nixon's proposal came from witness descriptions of construction workers suffering from asbestosis [MacLaury 1981].

In 1969, Democrats presented a bill similar to Johnson's proposal. Despite Republican efforts, the bill made it to committee. Although opponents delayed consideration until after the election, the bill made it through. In 1970, President Nixon signed the Occupational Safety and Health Act of 1970, ending a 3-year legislative battle.

A Time to Act

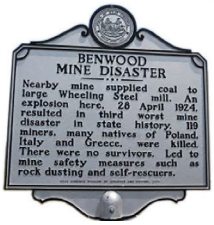
Worker Deaths, Illnesses Prompt Occupational Safety and Health Act of 1970



Photos by U.S. Library of Congress

1920
United States issues first approval of a respiratory protective device.

1924
Benwood, WV, coal mine blast kills 119.



1924
Castle Gate, UT, mine blast kills 172.

1927–1935
Construction of WV Hawks Nest Tunnel causes occupational silicosis, leading to 109 deaths.

1928
Mather, PA, No. 1 coal mine blast kills 195.

1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929

1931
After the lung disease asbestosis is identified, the first asbestos industry regulations are published.

1933
The Wagner-Peyser Act establishes the U.S. Employment Service.

1934
The Bureau of Labor Standards opens.

1935
National Labor Relations Act passes.

1931–1936
Boulder Dam (later Hoover Dam) project kills at least 96 workers.

1937
Apprenticeship Act passes.

1938
Fair Labor Standards Act codifies 40-hour work week.

1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940

1941
Federal Coal Mine Inspection Act passes.

1944
Natural gas tank blast kills 130 in East Ohio.

1944
Naval Magazine explosion at Port Chicago, CA, kills 320.

1947
Centralia, IL, coal mine blast kills 111 miners.

1947
S.S. Grandcamp explodes in port, killing 581.

1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 | 1949

1951
Coal mine blast in West Frankfort, IL, kills 119.

1951
Sen. Hubert Humphrey proposes federal job safety law.

1952
Federal Coal Mine Safety Act passes.

1967
Study reveals high rate of cancer in uranium miners.

1969
Federal Coal Mine Health and Safety Act of 1969 passes.

1970
Congress passes Occupational Safety and Health Act of 1970 and the Clean Air Act.

1950s | 1960s

Photos by U.S. Library of Congress

Why we need the OSH Act today

The OSH Act of 1970 was the first comprehensive federal law regulating the safety and health of the U.S. workforce. OSHA estimates that in 1970 around 14,000 workers lost their lives at work [OSHA 2010]. Today the working population is around 155 million workers, almost double the number in 1970 [BLS 2019a]. We have made progress. In 2018, around 5,000 workers lost their lives at work [BLS 2019b].

In 2018, more than 3.5 million workers were injured or harmed on the job [BLS 2019c]. NIOSH holds as a basic tenet that all workplace injuries and illnesses are preventable. In 2020 the OSH Act is as necessary today as it was 50 years ago.

What the OSH Act has accomplished

During the OSH Act's first decade, NIOSH contributed much to occupational safety and health. In 1971, NIOSH published the *Criteria for a Recommended Standard on Asbestos* and the *Toxic Substances List*. In 1974, the NIOSH/OSHA Standards Completion Program became the basis for 387 new OSHA standards. In 1975, NIOSH published the first of its Current Intelligence Bulletins (CIBs). These were followed by the *NIOSH Pocket Guide to Chemicals* in 1978.

NIOSH continued its momentum in its second decade. In 1986, NIOSH released *Proposed National Strategies for the Prevention of Leading Work-Related Diseases and Injuries*, a strategic plan for the top 10 work-related diseases and injuries. That same year, NIOSH partnered with the United Nations International Labour Organization (ILO) Programme on Chemical Safety to launch International Chemical Safety Cards.

In the following decade, in 1991, NIOSH issued a ground-breaking *Current Intelligence Bulletin: Promoting Health and Preventing Disease and Injury Through Workplace Tobacco Policies on Secondhand Tobacco Smoke in the Workplace*. Five years later, responding to a surge in violence against workers, NIOSH issued findings and recommendations for preventing workplace homicides and assaults. In 1996, NIOSH unveiled the National Occupational Research Agenda (NORA), a public-private partnership between industry, labor, and government to stimulate innovative research and improve workplace practices. NORA is now in its third decade and consists of 10 industry sectors based on major areas of the U.S. economy. Each of these sectors has accomplished remarkable achievements toward improving the safety and health of the U.S. workforce.

Agriculture, Forestry and Fishing

- In 1987, NIOSH established the Sentinel Event Notification System for Occupational Risks–Pesticides Program to reduce the number of injuries and illnesses associated with occupational pesticide exposure.
- In 1990, NIOSH partnered with industry to address the high number of fishing fatalities in Alaska. By focusing on fishery-specific hazards, such as vessel overloading in the crab fleet, the partnership reduced fatalities.
- In 2007, NIOSH created the Commercial Fishing Incident Database by collecting risk factor information for fatalities to identify regional hazards for the commercial fishing industry.

Construction

- In 1997, NIOSH gave a new model for conducting research through partnership by publishing *Engineering Control Guidelines for Hot Mix Asphalt Pavers*.

- In 2012, NIOSH, OSHA, and the Center for Construction Research and Training (CPWR, a NIOSH-funded center), along with the NORA Construction Sector Council, launched a National Campaign to Prevent Falls in Construction, a nationwide initiative to prevent falls at construction sites.
- In 2019, CPWR and researchers at Washington State University partnered to develop the Safety Climate Assessment Tool (S-CAT), a free online tool that assesses organizational and job site safety climate.

Healthcare and Social Assistance

- In 1997, NIOSH published an Alert, *Preventing Allergic Reactions to Natural Rubber Latex in the Workplace.*
- In 2004, NIOSH published an Alert, *Preventing Occupational Exposures to Antineoplastic and Other Hazardous Drugs in Healthcare Settings*, and a list of hazardous drugs. The list was made with active input from partners in the healthcare industry, the pharmaceutical industry, and federal agencies. The current government-supported list *(NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2016)* of hazardous drugs in the United States is heavily referenced throughout the healthcare industry.
- In 2013, NIOSH published an online course, *Workplace Violence Prevention for Nurses*, to prevent physical and non-physical violence among healthcare workers. The course provides healthcare workers with a valuable tool for preventing, intervening with, and reporting violence in the workplace.

Manufacturing

- In 1997, NIOSH researchers identified a new lung disease, lymphocytic bronchiolitis, in nylon flocking industry workers, reported in *Flock Workers' Exposures and Respiratory Symptoms in Five Plants*.
- In 2000, NIOSH initiated a program to reconstruct occupational radiation doses for atomic weapons industry workers with cancers who filed claims for compensation under the Energy Employees Occupational Illness Compensation Program Act of 2000.
- In 2002, NIOSH scientists published a study, *Preventing Lung Disease in Workers Who Use or Make Flavorings*, about severe lung disease found in workers at a series of microwave-popcorn plants.
- In 2008, the NIOSH-OSHA-NHCA (National Hearing Conservation Association) Alliance published a joint document, *Best Practice Bulletin: Hearing Protection—Emerging Trends: Individual Fit Testing*. With the development of HPD Well-Fit™, fit-testing has been validated as an effective, practical, and essential tool for preventing occupational hearing loss.

Mining

- In 1997, NIOSH received authority to do mine safety research after the U.S. Bureau of Mines was closed. This brought NIOSH specialists into mine safety engineering and research, creating research sites in Pittsburgh, PA, and Spokane, WA.
- In 2001, NIOSH established the National Personal Protective Technology Laboratory (NPPTL) to prevent and reduce occupational disease, injury, and death for workers who rely on personal protective technologies.
- In 2011, NIOSH scientists developed a light-emitting diode (LED) cap lamp to improve illumination and decrease injury risk for underground miners.

Oil and Gas Extraction

- In 2010, NIOSH partnered with government agencies to give technical

assistance during the Deepwater Horizon disaster in the Gulf of Mexico.
- Since 2010, NIOSH scientists researched exposure hazards to the oil and gas extraction workforce, including exposures to respirable crystalline silica during manual tank gauging and fluid transfer operations. In 2017, NIOSH researchers published *NIOSH and Partners Work to Prevent Worker Deaths from Exposures to Hydrocarbon Gases and Vapors at Oil and Gas Wellsites*.
- In 2016, NIOSH and the American Petroleum Institute published a new safety standard, *Custody Transfer of Crude Oil from Lease Tanks Using Alternative Measurement Methods*. This standard describes alternative methods for measuring the quantity and quality of crude oil without opening the tank hatch, protecting workers from exposure to hydrocarbon gases and vapors.

Public Safety

- On September 11, 2001, NIOSH provided technical assistance for rescue and recovery workers to help in their response to terrorist attacks in New York City; at the Pentagon; and near Shanksville, Pennsylvania.
- In 2006, NIOSH commercialized two NIOSH-designed field methods to help first responders, public health officials, and remediation workers quickly detect the presence of methamphetamine on various environmental surfaces.
- In 2011, Congress authorized the World Trade Center (WTC) Health Program, a federal health plan that provides medical care to responders and community survivors of the September 11, 2001, terrorist attacks. To date, more than 100,000 responders and survivors have become WTC Health Program members.
- The NIOSH Fire Fighter Fatality Investigation and Prevention Program as of 2016 has investigated more than 600 firefighter line-of-duty deaths, about 40 percent of firefighter fatalities.

Services

- In the 1980s, NIOSH led pioneering research on emerging safety and health concerns in the Services Sector. These included indoor environmental quality in office buildings and job-related musculoskeletal injuries.
- In 2007, NIOSH published a document, *NIOSH-funded Research Helps Reduce Occupational Exposure to PCBs When Renovating Schools*, focused on the levels of polychlorinated biphenyls (PCBs) in the blood of construction workers who renovated schools built before 1978. This research received widespread media attention, leading to an increase in public knowledge and awareness of the presence of PCBs in older school facilities.
- In 2011, NIOSH-funded researchers developed a hazard alert, *Crossing Guards—Be Seen, Be Safe*, which included local and national injury data, job and safety training requirements, recommended and required personal protective equipment (PPE), and safe work practice recommendations.

Transportation, Warehousing and Utilities

- In 2006, NIOSH researchers began a 4-year study to measure body dimensions in the current truck driver workforce. The resulting software, RAMSIS, is widely used to update and improve truck cab design.
- In 2013, NIOSH scientists guided the Alaska Interagency Aviation Safety Initiative (AIASI) to identify aviation risk factors, conduct a statewide survey of air taxi and commuter operators and pilots, and evaluate the success of safety interventions and regulatory changes.
- In 2014, as a partner in the Mat Su Mid-Air Collision Avoidance Working Group,

NIOSH investigators analyzed data from Federal Aviation Administration (FAA) and Aviation Safety Reporting System databases. The FAA accepted the group's recommendations.

Wholesale and Retail Trade

- In 1981, NIOSH researchers published *Work Practice Guide to Manual Lifting*.
- In 1994, NIOSH researchers published the *Revised NIOSH Lifting Equation*.
- In 2013, NIOSH researchers published *Preventing Slips, Trips, and Falls in Wholesale and Retail Trade Establishments*, which focused on preventing traumatic injuries in the workplace. The guide has been adopted by retail and wholesale companies with high rates of injuries from falls.
- In 2015, the Wholesale and Retail Trade program worked with employers and trade associations to research manual material handling to prevent musculoskeletal disorders (MSDs), publishing *Ergonomic Solutions for Retailers: Prevention of Material Handling Injuries in Grocery Stores*.

Going forward

In 2019, NIOSH launched a Future of Work initiative. Several centers and working groups throughout NIOSH are working internally and in collaboration with external partners and stakeholders to address the occupational safety and health concerns surrounding the future of work.

References

BLS [2019a]. Employed persons by detailed industry and age, 2018. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. Last modified December 17, 2019. https://www.bls.gov/cps/home.htm.

BLS [2019b]. TABLE A-1. Fatal occupational injuries by industry and event or exposure, all United States, 2018. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. Last modified December 17, 2019. https://www.bls.gov/iif/oshwc/cfoi/cftb0322.htm.

BLS [2019c]. TABLE 2. Numbers of nonfatal occupational injuries and illnesses by industry and case types, 2018, Injuries, Illnesses, and Fatalities 5250 fatalities. Washington, DC: U.S. Department of Labor, Bureau of Labor Statistics. Last modified December 17, 2019. https://www.bls.gov/iif/oshwc/osh/os/summ2_00_2018.htm.

Johnson L [1968]. President's message to Congress on manpower and occupational safety and health programs. Weekly Compilation of Presidential Documents *4*(4):110–111.

MacLaury J [1981]. The job safety law of 1970: its passage was perilous. Monthly Labor Review. https://www.bls.gov/opub/mlr/1981/03/art2full.pdf.

Massachusetts Bureau of Statistics of Labor, Annual Report [1878], pp. 421–425; Massachusetts Bureau of Statistics of Labor, Annual Report, 1870, p. 197; and John R. Commons and John B. Andrews, Principles of Labor Legislation (New York, Harper and Brothers, 1916), pp. 327–328.

OSHA [2010]. Timeline of OSHA's 40 Year History. Washington, DC: U.S. Department of Labor, Occupational Safety and Health Administration. https://www.osha.gov/osha40/timeline.html.

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The Year in Review

NIOSH in 2019

Below are examples of outstanding research and communication products that advanced the field of occupational safety and health in 2019.

Occupational Exposure Banding Assesses Hazards

The gold standard for assessing and controlling work-related chemical exposure is the occupational exposure limit, or OEL. Although more than 85,000 chemicals are commercially available, according to the U.S. Environmental Protection Agency, only about 1,000 chemicals have an authoritative OEL. As new chemicals are developed and introduced into commerce, the number of chemicals without OELs increases.

To inform chemical risk management in the workplace, NIOSH developed an approach called occupational exposure banding, described in a new report, *The NIOSH Occupational Exposure Banding Process for Chemical Risk Management*, and an accompanying Occupational Exposure Banding e-Tool (e-Tool). Occupational exposure banding is an innovative, voluntary approach that uses information about a chemical's toxicity and health effects to classify it into an appropriate occupational exposure band (OEB) [NIOSH 2019].

Photo by ©Endopack/Getty Images

Scientists tested the process and e-Tool on chemicals with OELs and found that the results were accurate, reproducible, and protective because indicated recommended levels of airborne exposures were at least as protective as the established OELs.

Risk Perception Key to Workplace Safety and Health

A recent study of 1,334 workers from 20 mine sites found that miners who

avoid risk were less likely to experience near-miss incidents, according to a paper published in the *Journal of Loss Prevention in the Process Industries* [Haas and Yorio 2019]. Previous NIOSH research showed that the likelihood of future injury may increase with the number of near misses. These findings suggest that mine operators should consider how individual worker attitudes about risk perception contribute to safety management and could apply to other high-risk industries like chemical processing.

Photo by NIOSH / Wikimedia Commons

Tool Helps Construction Companies Evaluate Safety

A new resource, the Safety Climate Assessment Tool (S-CAT), can help construction companies evaluate their jobsite safety climate, reports a NIOSH-funded study published in the *Journal of Safety Research* [Probst et al. 2019]. Studies have shown that a strong safety climate is associated with better safety and health outcomes. Despite advances to improve safety and health in construction, it remains one of the most hazardous industries. To address this issue, researchers at CPWR–The Center for Construction Research and Training and Washington State University partnered to develop the S-CAT. With this free online tool, respondents use text-based scales to answer questions across eight safety-climate factors.

The researchers used information from 985 respondents to confirm that these factors could reliably measure and also provide companies with a better understanding of their jobsite safety climate. With the S-CAT results in hand, a company can use CPWR's safety climate workbook to identify specific interventions to target lower-scoring factors. Companies can then use the S-CAT at a future date to evaluate how interventions improve the safety climate.

Silicosis Evaluated Among Medicare Beneficiaries

In this novel study [Casey and Mazurek 2019], published in the *American Journal of Industrial Medicine,* investigators looked at health insurance claims and enrollment information for nearly 50 million Medicare beneficiaries age 65 and older from 1999 to 2014. Medicare beneficiaries that met one of the silicosis case definitions were mostly white, but the highest rates were

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found among North American Natives. The investigators found that annually 12.4 to 24.9 out of 100,000 beneficiaries had an indication of silicosis in their medical claims. By state, New Mexico, West Virginia, and Utah had the highest rates of silicosis during the 16 years studied. While new cases of silicosis declined from 2002 to 2014, the number of prevalent cases remained constant from 2005 to 2014. These results are consistent with findings from previous silicosis studies in different populations and show how health insurance claims can inform our understanding of silicosis.

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Slip-resistant Shoes Reduce Compensation Claims

Food services operations where workers received free highly slip-resistant shoes showed a large reduction in workers' compensation claims for slip injuries compared with food service operations where workers did not receive the shoes, according to research [Bell et al. 2019] published in the *Scandinavian Journal of Work, Environment & Health*.

Slips, trips, and falls are the third-leading cause of U.S. non-fatal work-related injuries involving days away from work across all industries. Almost 80% of these injuries are on the same level, and these injuries are estimated to cost nearly $13 billion in direct workers' compensation-related costs annually. Laboratory tests have shown that

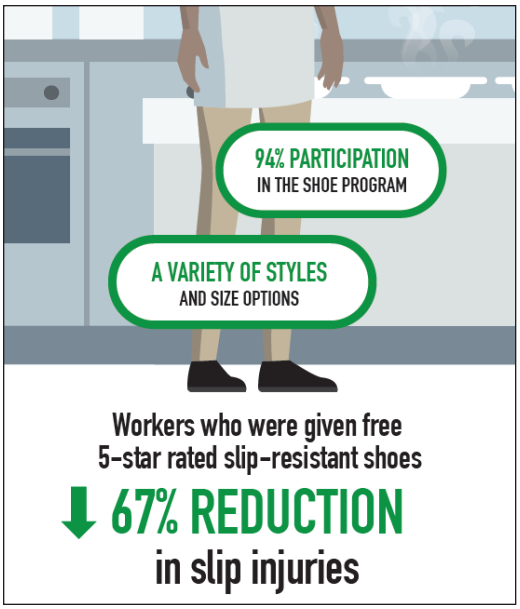

Photo by NIOSH

slip-resistant shoes designed with a special tread helped prevent slipping, but studies in actual workplaces were lacking.

Investigators looked specifically at workers' compensation injury claims caused by slipping on wet or greasy surfaces, the type of incident that the shoes were designed to prevent. School districts filed 67% fewer claims for slip injuries after being provided the slip-resistant shoes, compared with no reduction in claims at the school districts that did not receive the shoes.

Needlestick Risk Greatest When Police Do Searches

A recently published NIOSH study [de Perio et al. 2019] in the *American Journal of Infection Control* found that needlestick injuries and other exposures to body substances in one city police department were infrequent but most likely to occur during pat-down and personal property searches. The police department comprised about 1,000 sworn police officers and 125 civilian workers.

Results showed that 13 needlestick injuries occurred during the 6 years studied. These injuries were most likely when police officers performed pat-down,

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property, and vehicle searches. Nine of 11 people searched or otherwise involved in these events tested positive for the hepatitis C virus upon subsequent evaluation. Also, 37 additional body substance exposures occurred from spitting, human bites, and other forms of exposure to blood. None of the police officers were reported to be infected by viruses transmitted by blood. These findings indicate that while needlestick injuries and other body substance exposures occurred infrequently in the police department, they still presented a risk.

Drug Exposures Highlight Need to Protect Responders

In two recent incidents, law enforcement officers developed health symptoms after exposure to opioids and other drugs at work that prevented them from performing their duties. These incidents highlight the need for policies and procedures, as well as education and training about exposure prevention, according to a report published in the *American Journal of Industrial Medicine* [Chiu et al. 2019].

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After officers in two law enforcement agencies experienced health effects related to potential opioid exposure, the agencies requested assistance through the NIOSH Health Hazard Evaluation Program, which provides free workplace evaluations.

The first incident occurred in 2017 when white powder fell onto an officer during a traffic stop in New Hampshire. In the second incident, in 2018, four officers developed symptoms while responding to a call about a possible drug overdose in Virginia. NIOSH investigators interviewed the officers and others and reviewed medical records, incident reports, laboratory results, and body camera footage if available. They found that both incidents involved several types of drugs: opioids, such as fentanyl; and stimulants, including cocaine and methamphetamine. All five officers reported nonspecific symptoms that required medical attention and temporarily prevented them from working, but the symptoms were not consistent with severe or life-threatening opioid toxicity. Although the routes of exposure were not well characterized, the investigators made recommendations to prevent such incidents.

Graphs Improve Studies of Work Exposures in Pregnancy

A NIOSH study [Johnson et al. 2019] used a graphing technique to show how to account for healthy worker effects in studies of work-related exposures in pregnancy.

Workers often tend to be healthier and live longer than their unemployed peers, who may be unable to work due to illness or other issues. A recent study by NIOSH and a university partner aimed to understand how to account for these "healthy worker effects" in studies among pregnant workers.

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Most information on how to account for healthy worker effects comes from studies of long-term diseases and deaths. Since pregnancy is a comparatively short, defined period, pregnancy-related studies need a different approach.

The study used a graphing technique to depict when during pregnancy healthy worker effects were most likely to occur. In addition to the healthy hire effect, which refers to healthier pregnant women being more likely to work, researchers used graphs to look at several possibilities:

- Situations when socioeconomic differences influence who returns to work after pregnancy.
- Women with live births leaving the workforce.
- Women with a previous complicated pregnancy leaving the workforce before the relevant high-risk period occurs.
- Women leaving the workforce at different times depending on various exposures during pregnancy.

Researchers found that using graphs helped accurately identify when during pregnancy each healthy worker effect is most likely. By restricting research to these specific times, and to women already working during these times, researchers can account for these healthy worker effects in their studies of work exposures during pregnancy.

Curriculum Improves Adolescents' Knowledge

U.S. adolescents (<18 years old) experience a higher rate of job-related injuries compared with adults. Safety education is considered critical to the prevention of these incidents.

To prepare middle- and high-school students for safe and healthy employment, NIOSH and its partners developed a free curriculum, *Youth@Work—Talking Safety*, built on a theoretical framework of foundational workplace safety and health competencies that are fundamental to all jobs. In a new study [Guerin et al. 2019] published in *Prevention Science,* investigators from the NIOSH Safe-Skilled-Ready Workforce Program examined the impact of the *Talking Safety* curriculum on students' knowledge and perceptions of workplace safety and health. The curriculum was delivered by science teachers with strict adherence to the program as it was designed by NIOSH. After receiving curriculum instruction, more than 1,700 eighth graders in Miami-Dade, Florida, the fourth largest

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U.S. school district, scored statistically significantly higher on the outcomes assessed. Specifically, their average scores increased in workplace safety knowledge (34%); attitude (5%); perceived norms related to workplace safety behaviors (7%); self-efficacy, or confidence in one's ability to take appropriate action (7%); and behavioral intention to engage in workplace safety activities (7%).

These findings build on previous research by the same investigators and support using this curriculum to provide adolescents with critical life skills for safe and healthy work.

References

Bell JL, Collins JW, Chiou S [2019]. Effectiveness of a no-cost-to-workers, slip-resistant footwear program for reducing slipping-related injuries in food service workers: a cluster randomized trial. Scand J Work Environ Health *45*(2):194–202. https://doi.org/10.5271/sjweh.3790.

Casey ML, Mazurek JM [2019]. Silicosis prevalence and incidence among Medicare beneficiaries. Am J Ind Med *62*(3):183–191.

Chiu SK, Hornsby-Myers JL, de Perio MA, Snawder JE, Wiegand DM, Trout D, Howard J [2019]. Health effects from unintentional occupational exposure to opioids among law enforcement officers: two case investigations. Am J Ind Med *62*(5):439–447.

de Perio MA, Victory KR, Groenewold MR [2019]. Needlestick injuries and other body substance exposures among police officers in a city police department. Am J Infect Control *47*(3):294–297.

Guerin RJ, Okun AH, Barile JP, Emshoff JG, Ediger MD, Baker DS [2019]. Preparing teens to stay safe and healthy on the job: a multilevel evaluation of the talking safety curriculum for middle schools and high schools. Prev Sci *20*(4):510–520.

Haas EJ, Yorio PL [2019]. The role of risk avoidance and locus of control in workers' near miss experiences: implications for improving safety management systems. J Loss Prev Process Ind *59*(May 2019):91–99.

Johnson CY, Rocheleau CM, Grajewski B, Howards PP [2019]. Structure and control of healthy worker effects in studies of pregnancy outcomes. Am J Epidemiol *188*(3):562–569.

NIOSH [2019]. Technical report: the NIOSH occupational exposure banding process for chemical risk management. By Lentz TJ, Seaton M, Rane P, Gilbert SJ, McKernan LT, Whittaker C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-132.

Probst TM, Goldenhar LM, Byrd JL, Betit E [2019]. The Safety Climate Assessment Tool (S-CAT): a rubric-based approach to measuring construction safety climate. J Saf Res *69*:43–45.

Top 5 NIOSH 2019 Products by Altmetric Score

	**Endotoxin and (1→3)-β-D-Glucan Contamination in Electronic Cigarette Products Sold in the United States** *Environmental Health Perspectives,* April 2019
	**Tuberculosis Screening, Testing, and Treatment of U.S. Health Care Personnel: Recommendations From the National Tuberculosis Controllers Association and CDC, 2019** *MMWR: Morbidity & Mortality Weekly Report,* May 2019
	**Suicide Among Veterinarians in the United States from 1979 Through 2015** *Journal of the American Veterinary Medical Association,* January 2019
	**The Evidence of Human Exposure to Glyphosate: a Review** *Environmental Health,* January 2019
	**Trust in the Work Environment and Cardiovascular Disease Risk: Findings from the Gallup-Sharecare Well-Being Index** *International Journal of Environmental Research and Public Health,* January 2019

The Colors of the Donut

- Policy documents
- News
- Blogs
- Twitter
- Post-publication peer-reviews
- Facebook
- Sina Weibo
- Syllabi
- Wikipedia
- Google+
- LinkedIn
- Reddit
- Research highlight platform
- Q&A (Stack Overflow)
- Youtube
- Pinterest
- Patents

Journals Publishing NIOSH Articles in 2019

Rank	Top Journals Ranked by Number of NIOSH Articles Published	No.
1	Transactions of the Society for Mining, Metallurgy, and Exploration	21
2	Mining, Metallurgy & Exploration	20
3	Journal of Occupational and Environmental Hygiene	19
4	Morbidity and Mortality Weekly Report	18
5	American Journal of Industrial Medicine	17
6	Annals of Work Exposures and Health	10
7	International Journal of Mining Science and Technology	8
8	Journal of Occupational and Environmental Medicine	7
9	Journal of the Acoustical Society of America	6
10	International Journal of Environmental Research and Public Health Safety and Health at Work Safety Science	5
11	Applied Ergonomics Inhalation Toxicology International Journal of Audiology Nanotoxicology	4
12	Aerosol Science and Technology Health Security International Journal of Coal Science & Technology International Journal of Hygiene and Environmental Health Journal of Asthma Journal of the American Veterinary Medical Association Journal of Toxicology and Environmental Health, Part A: Current Issues Policing: An International Journal of Police Strategies and Management Public Library of Science One Rock Mechanics and Rock Engineering Toxicology and Applied Pharmacology	3

Journals Publishing Two Articles

American Journal of Human Biology • American Journal of Preventive Medicine • Analytical Chemistry • Archives of Environmental & Occupational Health • Archives of Toxicology • Chemical Research in Toxicology • Coal Age • Current Environmental Health Reports • Dermatitis • Emerging Infectious Diseases • Industrial Health • International Journal of Industrial Ergonomics • International Journal of Molecular Sciences • Journal of Agromedicine • Journal of Chemical Health and Safety • Journal of Exposure Science and Environmental Epidemiology • Journal of Immunotoxicology • Journal of Loss Prevention in the Process Industries • Journal of Oncology Pharmacy Practice • Journal of Safety Research • NanoImpact • Occupational and Environmental Medicine • Particle and Fibre Toxicology • Pit & Quarry • Police Chief • Preventing Chronic Disease • Scandinavian Journal of Work, Environment & Health • Scientific Reports • The American Journal of Nursing • Toxicological Sciences • Zoonoses and Public Health

Journals Publishing One Article

Accident Analysis and Prevention • Advanced Powder Technology • Aerobiologia • Aerosol and Air Quality Research • Air Quality, Atmosphere, & Health • Allergy • American Journal of Disaster Medicine • American Journal of Epidemiology • American Journal of Evaluation • American Journal of Health Promotion • American Journal of Infection Control • American Journal of Medical Quality • American Journal of Physiology: Cell Physiology • American Journal of Respiratory and Critical Care Medicine • American Journal of Respiratory Cell and Molecular Biology • Annals of Internal Medicine • Anthrozoos • Anticancer Research • Biomarkers • Biometrics • BMC Musculoskeletal Disorders • BMC Public Health • Chemosphere • Chest • Clinical and Experimental Dermatology • Clinical Infectious Diseases • Cochrane Database of Systematic Reviews • Current Opinion in Allergy and Clinical Immunology • Current Opinion in Immunology • Cutaneous and Ocular Toxicology • Disaster Medicine and Public Health Preparedness • Engineering Failure Analysis • Environmental International • Environmental Monitoring and Assessment • Environmental Science: Nano • Epidemiology • Ergonomics • European Journal of Applied Physiology • European Journal of Pain • Fire Technology • Free Radical Biology and Medicine • Frontiers in Pharmacology • GLIA • Health Communication • Health Physics • Home Health Care Management and Practice • Human Factors • IEEE Transactions on Industry Applications • IISE Transactions on Occupational Ergonomics and Human Factors • Infection Control and Hospital Epidemiology • Injury Prevention • International Journal of Biometeorology • International Journal of Hyperthermia • JAMA Network Open • Journal of Aerosol Science • Journal of Applied Physiology • Journal of Biomechanics • Journal of Burn Care & Research • Journal of Chromatographic Science • Journal of Clinical Sleep Medicine • Journal of Emergency Management • Journal of Environmental Health • Journal of Hazardous Materials • Journal of Leukocyte Biology • Journal of Neurochemistry • Journal of Occupational Health Psychology • Journal of Occupational Medicine and Toxicology • Journal of Police and Criminal Psychology • Journal of Public Health Management and Practice • Journal of School Health • Journal of Sustainable Mining • Journal of Testing and Evaluation • Journal of the Air and Waste Management Association • Journal of the American Medical Association • Journal of the American Medical Directors Association • Journal of the Experimental Analysis of Behavior • Journal of the International Society for Respiratory Protection • Journal of Trace Elements in Medicine and Biology • Journal of Workplace Behavioral Health • Lancet Oncology • Lighting Research & Technology • Measurement • Medical Mycology • Metabolism: Clinical and Experimental • Microscopy Research and Technique • Mining Engineering • Mutation Research • Nano Letters • National Institute for Occupational Safety and Health • Neuroscience • Neurotoxicology • New England Journal of Medicine • Noise Control Engineering Journal • Nursing Outlook • Prevention Science • Progress in Electromagnetics Research C • Respiration • Risk Analysis • RSF: The Russell Sage Foundation Journal of the Social Sciences • Safety • Southwest Journal of Pulmonary and Critical Care • SSM - Population Health • The Hearing Journal • The Journal of Infectious Diseases • The Journals of Gerontology Series A: Biological Sciences and Medical Sciences • The Journals of Gerontology Series B: Psychological Sciences and Social Sciences • The Laryngoscope • The Psychological Record • Toxicologic Pathology • Toxicology Letters • Toxicology Reports • Traffic Injury Prevention • Work

Journal Articles

NOTE: The electronic form of the *NIOSH Bibliography of Communication and Research Products*, available at https://www.cdc.gov/niosh/awards/, offers links to NIOSHTIC-2 pages and online access to many NIOSH products featured in this publication.

Abukabda AB, Bowdridge EC, McBride CR, Batchelor TP, Goldsmith WT, Garner KL, Friend S, Nurkiewicz TR [2019]. Maternal titanium dioxide nanomaterial inhalation exposure compromises placental hemodynamics. Toxicol Appl Pharmacol *367*:51–61.
NIOSHTIC-2: **20054789**

Akinbami LJ, Salo PM, Cloutier MM, Wilkerson JC, Elward KS, Mazurek JM, Williams S, Zeldin DC [2019]. Primary care clinician adherence with asthma guidelines: the National Asthma Survey of Physicians. J Asthma: Epub ahead of print, 2019 March.
NIOSHTIC-2: **20054943**

Allison P, Mnatsakanova A, Fekedulegn DB, Violanti JM, Charles LE, Hartley TA, Andrew ME, Miller DB [2019]. Association of occupational stress with waking, diurnal, and bedtime cortisol response in police officers. Am J Hum Biol *31*(6):e23296.
NIOSHTIC-2: **20056685** | NORA: Public Safety

Allison P, Mnatsakanova A, McCanlies E, Fekedulegn D, Hartley TA, Andrew ME, Violanti JM [2019]. Police stress and depressive symptoms: role of coping and hardiness. Policing: Epub ahead of print, 2019 November.
NIOSHTIC-2: **20058167** | NORA: Public Safety

Allison PJ, Jorgensen NW, Fekedulegn D, Landsbergis P, Andrew ME, Foy C, Hinckley Stukovsky K, Charles LE [2019]. Current work hours and coronary artery calcification (CAC): the Multi-Ethnic Study of Atherosclerosis (MESA). Am J Ind Med: Epub ahead of print, 2019 December.
NIOSHTIC-2: **20058109**

Alterman T, Li J, Luckhaupt SE, Rosa R [2019]. QuickStats: percentage of adults aged >/= 18 years who felt worried, nervous, or anxious daily or weekly, by age group and employment status—National Health Interview Survey, United States, 2017. MMWR *68*(16):378.
NIOSHTIC-2: 20055788

Alterman T, Tsai R, Ju J, Kelly KM [2019]. Trust in the work environment and cardiovascular disease risk: findings from the Gallup-Sharecare Well-Being Index. Int J Environ Res Public Health *16*(2):230.
NIOSHTIC-2: 20054463

Anderson JL, Failla G, Finklea LR, Charp P, Ansari AJ [2019]. Radiation exposure of workers and volunteers in shelters and community reception centers in the aftermath of a nuclear detonation. Health Phys *116*(5):619–624.
NIOSHTIC-2: 20054661

Anderson SE, Weatherly L, Shane HL [2019]. Contribution of antimicrobials to the development of allergic disease. Curr Opin Immunol *60*:91–95.
NIOSHTIC-2: 20056209 **|** NORA: Healthcare and Social Assistance

Antonini JM, Kodali V, Meighan TG, Roach KA, Roberts JR, Salmen R, Boyce GR, Zeidler-Erdely PC, Kashon M, Erdely A, Shoeb M [2019]. Effect of age, high-fat diet, and rat strain on serum biomarkers and telomere length and global DNA methylation in peripheral blood mononuclear cells. Sci Rep *9*:1996.
NIOSHTIC-2: 20054851 **|** NORA: Construction

Applebaum KM, Asfaw A, O'Leary PK, Busey A, Tripodis Y, Boden LI [2019]. Suicide and drug-related mortality following occupational injury. Am J Ind Med *62*(9):733–741.
NIOSHTIC-2: 20056468

Aruna A, Mbala P, Minikulu L, Mukadi D, Bulemfu D, Edidi F, Bulabula J, Tshapenda G, Nsio J, Kitenge R, Mbuyi G, Mwanzembe C, Kombe J, Lubula L, Shako J, Mossoko M, Mulangu F, Mutombo A, Sana E, Tutu Y, Kabange L, Makengo J, Tshibinkufua F, Ahuka-Mundeke S, Muyembe JJ, CDC Ebola Response [2019]. Ebola virus disease outbreak—Democratic Republic of the Congo, August 2018–November 2019. MMWR *68*(50):1162–1165.
NIOSHTIC-2: 20058128

Asfaw A, Rosa RR, Pana-Cryan R [2019]. QuickStats: percentage of currently employed adults who have paid sick leave, by Industry—National Health Interview Survey, 2009 and 2018. MMWR *68*(34):753.
NIOSHTIC-2: 20057455

Asfaw AG, Chang C-C [2019]. The association between job insecurity and engagement of employees at work. J Workplace Behav Health *34*(2):96–110.
NIOSHTIC-2: **20055915**

Azman A, Schall J [2019]. Best practices for annual hearing tests. Coal Age *124*(9):32–33.
NIOSHTIC-2: **20057974** | NORA: Mining

Bahrami D, Yuan L, Rowland JH, Zhou L, Thomas R [2019]. Evaluation of post-blast re-entry times based on gas monitoring of return air. Min Metall Explor *36*(3):513–521.
NIOSHTIC-2: **20056090** | NORA: Mining

Barone TL, Hesse E, Seaman CE, Baran AJ, Beck TW, Harris ML, Jacques PA, Lee T, Mischler SE [2019]. Calibration of the cloud and aerosol spectrometer for coal dust composition and morphology. Adv Powder Tehnol *30*(9):1805–1814.
NIOSHTIC-2: **20056258**

Barrett C, Sarver E, Cauda E, Noll J, Vanderslice S, Volkwein J [2019]. Comparison of several DPM field monitors for use in underground mining applications. Aerosol Air Qual Res *19*(11):2367–2380.
NIOSHTIC-2: **20057769** | NORA: Mining

Baur X, Akdis CA, Budnik LT, Cruz MJ, Fischer A, Förster-Ruhrmann U, Göen T, Goksel O, Heutelbeck AR, Jones M, Lux H, Maestrelli P, Munoz X, Nemery B, Schlünssen V, Sigsgaard T, Traidl-Hoffmann C, Siegel P [2019]. Immunological methods for diagnosis and monitoring of IgE-mediated allergy caused by industrial sensitizing agents (IMExAllergy). Allergy *74*(10):1885–1897.
NIOSHTIC-2: **20055563**

Beaucham CC, Ceballos D, Mueller C, Page E, La Guardia MJ [2019]. Field evaluation of sequential hand wipes for flame retardant exposure in an electronics recycling facility. Chemosphere *219*:472–481.
NIOSHTIC-2: **20054224** | NORA: Services

Beck TW, Seaman CE, Shahan MR, Mischler SE [2019]. Open-air sprays for capturing and controlling airborne float coal dust on longwall faces. Trans Soc Min Metall Explor *344*:74–80.
NIOSHTIC-2: **20055361** | NORA: Mining

Belgrad J, Dutta DJ, Bromley-Collidge S, Kelly KA, Michalovicz LT, Sullivan KA, O'Callaghan JP, Fields RD [2019]. Oligodendrocyte involvement in Gulf War Illness. GLIA *67*(11):2107–2124.
NIOSHTIC-2: **20056864**

Bell JL, Collins JW, Chiou S [2019]. Effectiveness of a no-cost-to-workers, slip-resistant footwear program for reducing slipping-related injuries in food service workers: a cluster randomized trial. Scand J Work Environ Health *45*(2):194–202.
NIOSHTIC-2: **20054007** | NORA: Services

Bellanca JL, Orr TJ, Helfrich WJ, Macdonald B, Navoyski J, Demich B [2019]. Developing a virtual reality environment for mining research. Min Metall Explor *36*(4):597–606.
NIOSHTIC-2: **20054470** | NORA: Mining

Bellanca JL, Swanson LR, Helton J, McNinch M [2019]. Mineworkers' perceptions of mobile proximity detection systems. Min Metall Explor *36*(4):647–655.
NIOSHTIC-2: **20054472** | NORA: Mining

Benson SM, Maskrey JR, Nembhard MD, Unice KM, Shirley MA, Panko JM [2019]. Evaluation of personal exposure to surgical smoke generated from electrocautery instruments: a pilot study. Ann Work Expo Health *63*(9):990–1003.
NIOSHTIC-2: **20057401**

Bergman MS, Zhuang Z, Xu SS, Rengasamy S, Lawrence RB, Boutin B, Harris JR [2019]. Assessment of respirator fit capability test criteria for full-facepiece air-purifying respirators. J Occup Environ Hyg *16*(7):489–497.
NIOSHTIC-2: **20055921** | NORA: Healthcare and Social Assistance

Bernard TE, Yantek DS, Thimons ED [2019]. Estimation of metabolic heat input for refuge alternative thermal testing and simulation. Trans Soc Min Metall Explor *344*:152–156.
NIOSHTIC-2: **20055445** | NORA: Mining

B'Hymer CB [2019]. A brief overview of HPLC-MS analysis of alkyl methylphosphonic acid degradation products of nerve agents. J Chromatogr Sci *57*(7):606–617.
NIOSHTIC-2: **20055687** | NORA: Manufacturing

Blanc PD, Annesi-Maesano I, Balmes JR, Cummings KJ, Fishwick D, Miedinger D, Murgia N, Naidoo RN, Reynolds CJ, Sigsgaard T, Torén K, Vinnikov D, Redlich CA [2019]. The occupational burden of nonmalignant respiratory diseases: an official American Thoracic Society and European Respiratory Society statement. Am J Respir Crit Care Med *199*(11):1312–1334.
NIOSHTIC-2: **20056057**

Blount BC, Karwowski MP, Morel-Espinosa M, Rees J, Sosnoff C, Cowan E, Gardner M, Wang L, Valentin-Blasini L, Silva L, De Jesús VR, Kuklenyik Z, Watson C, Seyler T, Xia B, Chambers D, Briss P, King BA, Delaney L, Jones CM, Baldwin GT, Barr JR, Thomas J, Pirkle JL [2019]. Evaluation of bronchoalveolar lavage fluid from patients in an outbreak of e-cigarette, or vaping, product use-associated lung injury—10 states, August–October 2019. MMWR *68*(45):1040–1041.
NIOSHTIC-2: 20057796

Blount BC, Karwowski MP, Shields PG, Morel-Espinosa M, Valentin-Blasini L, Gardner M, Braselton M, Brosius CR, Caron KT, Chambers D, Corstvet J, Cowan E, De Jesús VR, Espinosa P, Fernandez C, Holder C, Kuklenyik Z, Kusovschi JD, Newman C, Reis GB, Rees J, Reese C, Silva L, Seyler T, Song MA, Sosnoff C, Spitzer CR, Tevis D, Wang L, Watson C, Wewers MD, Xia B, Heitkemper DT, Ghinai I, Layden J, Briss P, King BA, Delaney LJ, Jones CM, Baldwin GT, Patel A, Meaney-Delman D, Rose D, Krishnasamy V, Barr JR, Thomas J, Pirkle JL, Lung Injury Response Laboratory Working Group [2019]. Vitamin E acetate in bronchoalveolar-lavage fluid associated with EVALI. N Engl J Med: Epub ahead of print, 2019 December.
NIOSHTIC-2: 20058606

Bonlokke JH, Bang B, Aasmoe L, Abdel Rahman AM, Syron LN, Andersson E, Dahlman-Höglund A, Lopata AL, Jeebhay M [2019]. Exposures and health effects of bioaerosols in seafood processing workers—a position statement. J Agromed *24*(4):441–448.
NIOSHTIC-2: 20057270 | NORA: Agriculture, Forestry and Fishing

Borsh FB, Sleeth DK, Handy RG, Pahler LF, Andrews R, Ashley K [2019]. Evaluation of a 25-mm disposable sampler relative to the inhalable aerosol convention. J Occup Environ Hyg *16*(9):634–642.
NIOSHTIC-2: 20056661

Bowdridge EC, Abukabda AB, Engles KJ, McBride CR, Batchelor TP, Goldsmith WT, Garner KL, Friend S, Nurkiewicz TR [2019]. Maternal engineered nanomaterial inhalation during gestation disrupts vascular kisspeptin reactivity. Toxicol Sci *169*(2):524–533.
NIOSHTIC-2: 20055104

Braun BI, Tschurtz BA, Hafiz H, Novak DA, Montero MC, Alexander CM, Fauerbach LL, Gruden M, Isakari MT, Kuhar DT, Pompeii LA, Swift MD, Radonovich LJ [2019]. Opportunities to bridge gaps between respiratory protection guidance and practice in U.S. health care. Infect Control Hosp Epidemiol *40*(4):476–481.
NIOSHTIC-2: 20054926 | NORA: Healthcare and Social Assistance

Breloff SP, Dutta A, Dai F, Sinsel EW, Warren CM, Ning X, Wu JZ [2019]. Assessing work-related risk factors for musculoskeletal knee disorders in construction roofing tasks. Appl Ergon *81*:102901.
NIOSHTIC-2: 20056636 | NORA: Construction

Breloff SP, Sinsel EW, Dutta A, Carey RE, Warren CM, Dai F, Ning S, Wu JZ [2019]. Are knee savers and knee pads a viable intervention to reduce lower extremity musculoskeletal disorder risk in residential roofers? Int J Ind Ergon *74*:102868.
NIOSHTIC-2: **20057883** | NORA: Construction

Breloff SP, Wade C, Waddell DE [2019]. Lower extremity kinematics of cross-slope roof walking. Appl Ergon *75*:134–142.
NIOSHTIC-2: **20053166** | NORA: Construction

Brown KK, Norton AE, Neu DT, Shaw PB [2019]. Robotic direct reading device with spatial, temporal, and PID sensors for laboratory VOC exposure assessment. J Occup Environ Hyg *16*(11):717–726.
NIOSHTIC-2: **20057694**

Broyles G, Kardous CA, Shaw PB, Krieg EF [2019]. Noise exposures and perceptions of hearing conservation programs among wildland firefighters. J Occup Environ Hyg *16*(12):775–784.
NIOSHTIC-2: **20057791**

Bugarski AD, Hummer JA, Vanderslice S, Barone T [2019]. Retrofitting and re-powering as a control strategies for curtailment of exposure of underground miners to diesel aerosols. Min Metall Explor: Epub ahead of print, 2019 October.
NIOSHTIC-2: **20057818** | NORA: Mining

Caridi MN, Humann MJ, Liang X, Su FC, Stefaniak AB, LeBouf RF, Stanton ML, Virji MA, Henneberger PK [2019]. Occupation and task as risk factors for asthma-related outcomes among healthcare workers in New York City. Int J Hyg Environ Health *222*(2):211–220.
NIOSHTIC-2: **20053420**

Caruso CC, Baldwin CM, Berger A, Chasens ER, Edmonson JC, Holmes Gobel B, Landis CA, Patrician PA, Redeker NS, Scott LD, Todero C, Trinkoff A, Tucker S [2019]. Policy brief: nurse fatigue, sleep, and health, and ensuring patient and public safety. Nurs Outlook *67*(5):615–619.
NIOSHTIC-2: **20057352** | NORA: Public Safety

Caruso CC, Baldwin CM, Berger A, Chasens ER, Landis C, Redeker NS, Scott LD, Trinkoff A [2019]. Declaración de posición: reducir la fatiga asociada con la deficiencia de sueño y las horas de trabajo en enfermeras. Southwest J Pulm Crit Care *19*:169–174.
NIOSHTIC-2: **20058404** | NORA: Public Safety

Casey ML, Mazurek JM [2019]. Silicosis prevalence and incidence among Medicare beneficiaries. Am J Ind Med *62*(3):183–191.
NIOSHTIC-2: **20054384**

Chatham-Stephens K, Roguski K, Jang Y, Cho P, Jatlaoui TC, Kabbani S, Glidden E, Ussery EN, Trivers KF, Evans ME, King BA, Rose DA, Jones CM, Baldwin G, Delaney LJ, Briss P, Ritchey MD, Lung Injury Response Epidemiology/Surveillance Task Force, Lung Injury Response Clinical Task Force [2019]. Characteristics of hospitalized and nonhospitalized patients in a nationwide outbreak of e-cigarette, or vaping, product use-associated lung injury—United States, November 2019. MMWR *68*(46):1076–1080.
NIOSHTIC-2: 20057830

Chiu SK, Hornsby-Myers JL, de Perio MA, Snawder JE, Wiegand DM, Trout D, Howard J [2019]. Health effects from unintentional occupational exposure to opioids among law enforcement officers: two case investigations. Am J Ind Med *62*(5):439–447.
NIOSHTIC-2: 20055680 | NORA: Services

Chow NA, Toda M, Pennington AF, Anassi E, Atmar RL, Cox-Ganser JM, Da Silva J, Garcia B, Kontoyiannis DP, Ostrosky-Zeichner L, Leining LM, McCarty J, Al Mohajer M, Patel Murthy B, Park J-H, Schulte J, Shuford JA, Skrobarcek KA, Solomon S, Strysko J, Chiller TM, Jackson BR, Chew GL, Beer KD [2019]. Hurricane-associated mold exposures among patients at risk for invasive mold infections after Hurricane Harvey—Houston, Texas, 2017. MMWR *68*(21):469–473.
NIOSHTIC-2: 20056003 | NORA: Services

Coggon D, Ntani G, Palmer KT, Felli VE, Harari F, Quintana LA, Felknor SA, Rojas M, Cattrell A, Vargas-Prada S, Bonzini M, Solidaki E, Merisalu E, Habib RR, Sadeghian F, Kadir MM, Warnakulasuriya SSP, Matsudaira K, Nyantumbu-Mkhize B, Kelsall HL, Harcombe H [2019]. Drivers of international variation in prevalence of disabling low back pain: findings from the Cultural and Psychosocial Influences on Disability study. Eur J Pain *23*(1):35–45.
NIOSHTIC-2: 20054192

Colinet JF, Cecala AB, Patts JR [2019]. Dust suppression hopper reduces dust liberation during bulk loading: two case studies. Trans Soc Min Metall Explor *344*:164–169.
NIOSHTIC-2: 20055446 | NORA: Mining

Cote A, Wallace RM, Jackson DA, Said MA, Musgrave K, Tran CH, Van Houten C, Harrist A, Buttke D, Busacker A, Pickens V, Guagliardo SAJ [2019]. Evaluating the public health response to a mass bat exposure—Wyoming, 2017. Zoonoses Public Health *66*(5):504–511.
NIOSHTIC-2: 20056211 | NORA: Services

Couch JR, Burton NC, Victory KR, Green BJ, Lemons AR, Nayak AP, Beezhold DH [2019]. Endotoxin exposures during harvesting and processing cannabis at an outdoor cannabis farm. Aerobiologia *35*(2):367–371.
NIOSHTIC-2: 20054397 | NORA: Services

Couch JR, Grimes GR, Wiegand DM, Green BJ, Glassford EK, Zwack LM, Lemons AR, Jackson SR, Beezhold DH [2019]. Potential occupational and respiratory hazards in a Minnesota cannabis cultivation and processing facility. Am J Ind Med *62*(10):874–882.
NIOSHTIC-2: **20056639** | NORA: Healthcare and Social Assistance

Cox J, Mbareche H, Lindsley WG, Duchaine C [2019]. Field sampling of indoor bioaerosols. Aerosol Sci Tech: Epub ahead of print, 2019 November.
NIOSHTIC-2: **20057959** | NORA: Healthcare and Social Assistance

Croston TL, Lemons AR, Barnes MA, Goldsmith WT, Orandle MS, Nayak AP, Germolec DR, Green BJ, Beezhold DH [2019]. Inhalation of *Stachybotrys chartarum* fragments induces pulmonary arterial remodeling. Am J Respir Cell Mol Biol: Epub ahead of print, 2019 October.
NIOSHTIC-2: **20057785**

Cummings KJ, Stanton ML, Nett RJ, Segal LN, Kreiss K, Abraham JL, Colby TV, Franko AD, Green FHY, Sanyal S, Tallaksen RJ, Wendland D, Bachelder VD, Boylstein RJ, Park J-H, Cox-Ganser JM, Virji MA, Crawford JA, Green BJ, LeBouf RF, Blaser MJ, Weissman DN [2019]. Severe lung disease characterized by lymphocytic bronchiolitis, alveolar ductitis, and emphysema (BADE) in industrial machine-manufacturing workers. Am J Ind Med *62*(11):927–937.
NIOSHTIC-2: **20056995**

Dahm MM, Bertke S, Schubauer-Berigan MK [2019]. Predicting occupational exposures to carbon nanotubes and nanofibers based on workplace determinants modeling. Ann Work Expo Health *63*(2):158–172.
NIOSHTIC-2: **20054596**

Dahm MM, Evans DE, Bertke S, Grinshpun SA [2019]. Evaluation of total and inhalable samplers for the collection of carbon nanotube and carbon nanofiber aerosols. Aerosol Sci Tech *53*(8):958–970.
NIOSHTIC-2: **20056192** | NORA: Manufacturing

Davis SK, Calamia PT, Murphy WJ, Smalt CJ [2019]. In-ear and on-body measurements of impulse-noise exposure. Int J Audiol *58*(Suppl 1):S49–S57.
NIOSHTIC-2: **20054278**

de Perio MA, Materna BL, Sondermeyer Cooksey GL, Vugia DJ, Su CP, Luckhaupt SE, McNary J, Wilken JA [2019]. Occupational coccidioidomycosis surveillance and recent outbreaks in California. Med Mycol *57*(Suppl 1):S41–S45.
NIOSHTIC-2: **20054664** | NORA: Services

de Perio MA, Victory KR, Groenewold MR [2019]. Needlestick injuries and other body substance exposures among police officers in a city police department. Am J Infect Control *47*(3):294–297.
NIOSHTIC-2: **20053422** | NORA: Services

Deiters KK, Flamme GA, Tasko SM, Murphy WJ, Greene NT, Jones HG, Ahroon WA [2019]. Generalizability of clinically measured acoustic reflexes to brief sounds. J Acoust Soc Am *146*(5):3993–4006.
NIOSHTIC-2: **20058015**

Deziel NC, Beane Freeman LE, Hoppin JA, Thomas K, Lerro CC, Jones RR, Hines CJ, Blair A, Graubard BI, Lubin JH, Sandler DP, Chen H, Andreotti G, Alavanja MC, Friesen MC [2019]. An algorithm for quantitatively estimating non-occupational pesticide exposure intensity for spouses in the Agricultural Health Study. J Expo Sci Environ Epidemiol *29*(3):344–357.
NIOSHTIC-2: **20053704** | NORA: Manufacturing

Dodd KE, Mazurek JM [2019]. Asthma self-management education in persons with work-related asthma—United States, 2012–2014. J Asthma: Epub ahead of print, 2019 April.
NIOSHTIC-2: **20055613**

Dodd KE, Mazurek JM [2019]. Prevalence of COPD among workers with work-related asthma. J Asthma: Epub ahead of print, 2019 July.
NIOSHTIC-2: **20056658**

Doney B, Kurth L, Halldin C, Hale J, Frenk SM [2019]. Occupational exposure and airflow obstruction and self-reported COPD among ever-employed U.S. adults using a COPD-job exposure matrix. Am J Ind Med *62*(5):393–403.
NIOSHTIC-2: **20054787**

Doney BC, Blackley D, Hale JM, Halldin C, Kurth L, Syamlal G, Laney AS [2019]. Respirable coal mine dust in underground mines, United States, 1982–2017. Am J Ind Med *62*(6):478–485.
NIOSHTIC-2: **20055621**

Dong J, Ma Q [2019]. Integration of inflammation, fibrosis, and cancer induced by carbon nanotubes. Nanotoxicology *13*(9):1244–1274.
NIOSHTIC-2: **20057426** | NORA: Manufacturing

Dong J, Ma Q [2019]. In vivo activation and pro-fibrotic function of NF-kB in fibroblastic cells during pulmonary inflammation and fibrosis induced by carbon nanotubes. Front Pharmacol *10*:1140.
NIOSHTIC-2: **20057611** | NORA: Construction

Downes A, Novicki E, Howard J [2019]. Using the contribution analysis approach to evaluate science impact: a case study of the National Institute for Occupational Safety and Health. Am J Eval *40*(2):177–189.
NIOSHTIC-2: **20051423**

Dubaniewicz MT, Rottach DR, Yorio PL [2019]. Quality assurance sampling plans in U.S. stockpiles for personal protective equipment: a computer simulation to examine degradation rates. Health Secur *17*(4):324–333.
NIOSHTIC-2: **20057083**

Dumas O, Varraso R, Boggs KM, Quinot C, Zock J-P, Henneberger PK, Speizer FE, Le Moual N, Camargo CA Jr. [2019]. Association of occupational exposure to disinfectants with incidence of chronic obstructive pulmonary disease among U.S. female nurses. JAMA Netw Open *2*(10):e1913563.
NIOSHTIC-2: **20057604**

Egan KB, Tsai RJ, Chuke SO [2019]. Integrating childhood and adult blood lead surveillance to improve identification and intervention efforts. J Public Health Manag Pract *25*(Suppl 1):S98–S104.
NIOSHTIC-2: **20054780**

Eggerth DE, Ortiz B, Keller BM, Flynn MA [2019]. Work experiences of Latino building cleaners: an exploratory study. Am J Ind Med *62*(7):600–608.
NIOSHTIC-2: **20055891**

Eiter BM, Hrica J, Willmer DR [2019]. Imminent danger: characterizing uncertainty in critically hazardous mining situations. Trans Soc Min Metall Explor *344*:170–175.
NIOSHTIC-2: **20055447** | NORA: Mining

Esterhuizen GS, Gearhart DF, Klemetti T, Dougherty H, Van Dyke M [2019]. Analysis of gateroad stability at two longwall mines based on field monitoring results and numerical model analysis. Int J Min Sci Technol *29*(1):35–43.
NIOSHTIC-2: **20054056** | NORA: Mining

Esterhuizen GS, Tyrna PL, Murphy MM [2019]. A case study of the collapse of slender pillars affected by through-going discontinuities at a limestone mine in Pennsylvania. Rock Mech Rock Eng *52*(12):4941–4952.
NIOSHTIC-2: **20057695**

Estill CF, Slone J, Mayer AC, Phillips K, Lu J, Chen IC, Christianson A, Streicher R, La Guardia MJ, Jayatilaka N, Ospina M, Calafat AM [2019]. Assessment of spray polyurethane foam worker exposure to organophosphate flame retardants through measures in air, hand wipes, and urine. J Occup Environ Hyg *16*(7):477–488.
NIOSHTIC-2: **20055955** | NORA: Manufacturing

Falcone LM, Zeidler-Erdely PC [2019]. Skin cancer and welding. Clin Exp Dermatol *44*(2):130–134.
NIOSHTIC-2: **20053236** | NORA: Manufacturing

Farcas D, Blachere FM, Kashon ML, Sbarra D, Schwegler-Berry D, Stull JO, Noti JD [2019]. Survival of *Staphylococcus aureus* on the outer shell of fire fighter turnout gear after sanitation in a commercial washer/extractor. J Occup Med Toxicol *14*:10.
NIOSHTIC-2: **20055238** | NORA: Public Safety

Farcas MT, Stefaniak AB, Knepp AK, Bowers L, Mandler WK, Kashon M, Jackson SR, Stueckle TA, Sisler JD, Friend SA, Qi C, Hammond DR, Thomas TA, Matheson J, Castranova V, Qian Y [2019]. Acrylonitrile butadiene styrene (ABS) and polycarbonate (PC) filaments three-dimensional (3-D) printer emissions-induced cell toxicity. Toxicol Lett *317*:1–12.
NIOSHTIC-2: **20057397** | NORA: Manufacturing

Fekedulegn D, Alterman T, Charles LE, Kershaw KN, Safford MM, Howard VJ, MacDonald LA [2019]. Prevalence of workplace discrimination and mistreatment in a national sample of older U.S. workers: the REGARDS cohort study. SSM Popul Health *8*:100444.
NIOSHTIC-2: **20056483**

Fennelly KP, Acuna-Villaorduna C, Jones-Lopez E, Lindsley WG, Milton D [2019]. Microbial aerosols: new diagnostic specimens for pulmonary infections. Chest: Epub ahead of print, 2019 October.
NIOSHTIC-2: **20057853** | NORA: Healthcare and Social Assistance

Fent KW, Mayer A, Bertke S, Kerber S, Smith D, Horn GP [2019]. Understanding airborne contaminants produced by different fuel packages during training fires. J Occup Environ Hyg *16*(8):532–543.
NIOSHTIC-2: **20056247**

Fent KW, Toennis C, Sammons D, Robertson S, Bertke S, Calafat AM, Pleil JD, Wallace MAG, Kerber S, Smith D, Horn GP [2019]. Firefighters' absorption of PAHs and VOCs during controlled residential fires by job assignment and fire attack tactic. J Expo Sci Environ Epidemiol: Epub ahead of print, 2019 June.
NIOSHTIC-2: **20056341** | NORA: Public Safety

Fent KW, Toennis C, Sammons D, Robertson S, Bertke S, Calafat AM, Pleil JD, Wallace MAG, Kerber S, Smith DL, Horn GP [2019]. Firefighters' and instructors' absorption of PAHs and benzene during training exercises. Int J Hyg Environ Health *222*(7):991–1000.
NIOSHTIC-2: **20056484** | NORA: Public Safety

Ferguson SA, Merryweather A, Thiese MS, Hegmann KT, Lu M-L, Kapellusch JM, Marras WS [2019]. Prevalence of low back pain, seeking medical care, and lost time due to low back pain among manual material handling workers in the United States. BMC Musculoskelet Disord *20*:243.
NIOSHTIC-2: 20055958 | NORA: Manufacturing

Flamme GA, Murphy WJ [2019]. Auditory risk of exposure to ballistic N-waves from bullets. Int J Audiol *58*(Suppl 1):S58–S64.
NIOSHTIC-2: 20054666

Foreman AM, Allison P, Poland M, Meade BJ, Wirth O [2019]. Employee attitudes about the impact of visitation dogs on a college campus. Anthrozoos *32*(1):35–50.
NIOSHTIC-2: 20054540 | NORA: Services

Foreman AM, Hayashi Y, Friedel JE, Wirth O [2019]. Social distance and texting while driving: a behavioral economic analysis of social discounting. Traffic Inj Prev *20*(7):702–707.
NIOSHTIC-2: 20056890

Fox RR, Lu M-L, Occhipinti E, Jaeger M [2019]. Understanding outcome metrics of the revised NIOSH lifting equation. Appl Ergon *81*:102897.
NIOSHTIC-2: 20056733

Friedel JE, DeHart WB, Foreman AM, Andrew ME [2019]. A Monte Carlo method for comparing generalized estimating equations to conventional statistical techniques for discounting data. J Exp Anal Behav *111*(2):207–224.
NIOSHTIC-2: 20054551 | NORA: Wholesale and Retail Trade

Fuente A, Hickson L, Morata TC, Williams W, Khan A, Fuentes-Lopez E [2019]. Jet fuel exposure and auditory outcomes in Australian air force personnel. BMC Public Health *19*:675.
NIOSHTIC-2: 20056210 | NORA: Manufacturing

Fujishiro K, MacDonald LA, Crowe M, McClure LA, Howard VJ, Wadley VG [2019]. The role of occupation in explaining cognitive functioning in later life: education and occupational complexity in a U.S. national sample of black and white men and women. J Geront, Ser B Psychol Sci Soc Sci *74*(7):1189–1199.
NIOSHTIC-2: 20050488

Fujishiro K, MacDonald LA, Howard VJ [2019]. Job complexity and hazardous working conditions: how do they explain educational gradient in mortality? J Occup Health Psychol: Epub ahead of print, 2019 September.
NIOSHTIC-2: 20058107

Gaillard S, Sarver E, Cauda E [2019]. Impact of aging on the performance of impactor and sharp-cut cyclone size selectors for DPM sampling. Trans Soc Min Metall Explor *344*:157–163.
NIOSHTIC-2: **20055444**

Gaillard S, Sarver E, Cauda E [2019]. A field study on the possible attachment of DPM and respirable dust in mining environments. J Sustain Mining *18*(2):100–108.
NIOSHTIC-2: **20055576** | NORA: Mining

Gangrade V, Schatzel SJ, Harteis SP [2019]. A field study of longwall mine ventilation using tracer gas in a trona mine. Min Metall Explor *36*(6):1201–1211.
NIOSHTIC-2: **20056741** | NORA: Mining / Oil and Gas Extraction

Gangrade V, Schatzel SJ, Harteis SP, Addis JD [2019]. Investigating the impact of caving on longwall mine ventilation using scaled physical modeling. Min Metall Explor *36*(4):729–740.
NIOSHTIC-2: **20055593** | NORA: Mining / Oil and Gas Extraction

Gartner J, Rosa RR, Roach G, Kubo T, Takahashi M [2019]. Working Time Society consensus statements: regulatory approaches to reduce risks associated with shift work—a global comparison. Ind Health *57*(2):245–263.
NIOSHTIC-2: **20054668**

Geer Wallace MA, Pleil JD, Oliver KD, Whitaker DA, Mentese S, Fent KW, Horn GP [2019]. Non-targeted GC/MS analysis of exhaled breath samples: exploring human biomarkers of exogenous exposure and endogenous response from professional firefighting activity. J Toxicol Environ Health, A *81*(4):244–260.
NIOSHTIC-2: **20055247** | NORA: Public Safety

Geer Wallace MA, Pleil JD, Oliver KD, Whitaker DA, Mentese S, Fent KW, Horn GP [2019]. Targeted GC-MS analysis of firefighters' exhaled breath: exploring biomarker response at the individual level. J Occup Environ Hyg *16*(5):355–366.
NIOSHTIC-2: **20055284** | NORA: Public Safety

Gerhart HD, Seo Y, Kim J-H, Followay B, Vaughan J, Quinn T, Gunstad J, Glickman EL [2019]. Investigating effects of cold water hand immersion on selective attention in normobaric hypoxia. Int J Environ Res Public Health *16*(16):2859.
NIOSHTIC-2: **20056983**

Gerhart HD, Seo Y, Vaughan J, Followay B, Barkley JE, Quinn T, Kim J-H, Glickman EL [2019]. Cold-induced vasodilation responses before and after exercise in normobaric normoxia and hypoxia. Eur J Appl Physiol *119*(7):1547–1556.
NIOSHTIC-2: **20055822**

Goodier MC, Zang LY, Siegel PD, Warshaw EM [2019]. Isothiazolinone content of U.S. consumer adhesives: ultrahigh-performance liquid chromatographic mass spectrometry analysis. Dermatitis *30*(2):129–134.
NIOSHTIC-2: **20055112**

Greene RL, Hu YH, Difranco N, Wang X, Lu M-L, Bao S, Lin J-H, Radwin RG [2019]. Predicting sagittal plane lifting postures from image bounding box dimensions. Hum Factors *61*(1):64–77.
NIOSHTIC-2: **20052447**

Grimes R, Beaucham C, Ramsey J [2019]. Notes from the field: lead and cadmium exposure in electronic recyclers—two states, 2015 and 2017. MMWR *68*(7):181–182.
NIOSHTIC-2: **20054790** | NORA: Services

Groenewold M, Brown L, Smith E, Sweeney MH, Pana-Cryan R, Schnorr T [2019]. Burden of occupational morbidity from selected causes in the United States overall and by NORA industry sector, 2012: a conservative estimate. Am J Ind Med *62*(12):1117–1134.
NIOSHTIC-2: **20057201**

Groenewold MR, Burrer SL, Ahmed F, Uzicanin A, Luckhaupt SE [2019]. Health-related workplace absenteeism among full-time workers—United States, 2017–18 influenza season. MMWR *68*(26):577–582.
NIOSHTIC-2: **20056389**

Gu JK, Charles LE, Millen AE, Violanti JM, Ma CC, Jenkins E, Andrew ME [2019]. Associations between adiposity measures and 25-hydroxyvitamin D among police officers. Am J Hum Biol *31*(5):e23274.
NIOSHTIC-2: **20057355** | NORA: Public Safety

Guagliardo SAJ, Iverson SA, Reynolds L, Yaglom H, Venkat H, Galloway R, Levy C, Reindel A, Sylvester T, Kretschmer M, LaFerla Jenni M, Woodward P, Beatty N, Artus A, Klein R, Sunenshine R, Schafer IJ [2019]. Despite high-risk exposures, no evidence of zoonotic transmission during a canine outbreak of leptospirosis. Zoonoses Public Health *66*(2):223–231.
NIOSHTIC-2: **20054407**

Guerin RJ, Okun AH, Barile JP, Emshoff JG, Ediger MD, Baker DS [2019]. Preparing teens to stay safe and healthy on the job: a multilevel evaluation of the talking safety curriculum for middle schools and high schools. Prev Sci *20*(4):510–520.
NIOSHTIC-2: **20055391**

Guerin RJ, Toland MD, Okun AH, Rojas-Guyler L, Baker DS, Bernard AL [2019]. Using a modified theory of planned behavior to examine teachers' intention to implement a work safety and health curriculum. J Sch Health *89*(7):549–559.
NIOSHTIC-2: **20056074**

Guo NL, Poh TY, Pirela S, Farcas MT, Chotirmall SH, Tham WK, Adav SS, Ye Q, Wei Y, Shen S, Christiani DC, Ng KW, Thomas T, Qian Y, Demokritou P [2019]. Integrated transcriptomics, metabolomics, and lipidomics profiling in rat lung, blood, and serum for assessment of laser printer-emitted nanoparticle inhalation exposure-induced disease risks. Int J Mol Sci *20*(24):6348.
NIOSHTIC-2: **20058215**

Haas EJ [2019]. The role of supervisory support on workers' health and safety performance. Health Commun *35*(3):364–374.
NIOSHTIC-2: **20054378** | NORA: Mining

Haas EJ [2019]. Using self-determination theory to identify organizational interventions to support coal mineworkers' dust-reducing practices. Int J Min Sci Technol *29*(3):371–378.
NIOSHTIC-2: **20055067** | NORA: Mining

Haas EJ, Cecala AB, Colinet JF [2019]. Comparing the implementation of two dust control technologies from a sociotechnical systems perspective. Min Metall Explor *36*(4):709–727.
NIOSHTIC-2: **20056087** | NORA: Mining

Haas EJ, Eiter B, Hoebbel C, Ryan ME [2019]. The impact of job, site, and industry experience on worker health and safety. Safety *5*(1):16.
NIOSHTIC-2: **20057250** | NORA: Mining

Haas EJ, Yorio PL [2019]. The role of risk avoidance and locus of control in workers' near miss experiences: implications for improving safety management systems. J Loss Prev Process Ind *59*:91–99.
NIOSHTIC-2: **20055306** | NORA: Mining

Hall NB, Blackley DJ, Halldin CN, Laney AS [2019]. Continued increase in prevalence of r-type opacities among underground coal miners in the USA. Occup Environ Med *76*(7):479–481.
NIOSHTIC-2: **20055622**

Hall NB, Blackley DJ, Halldin CN, Laney AS [2019]. Current review of pneumoconiosis among U.S. coal miners. Curr Environ Health Rep *6*(3):137–147.
NIOSHTIC-2: **20057239**

Halldin CN, Blackley DJ, Markle T, Cohen RA, Laney AS [2019]. Patterns of progressive massive fibrosis on modern coal miner chest radiographs. Arch Environ Occup Health: Epub ahead of print, 2019 May.
NIOSHTIC-2: **20055903** | NORA: Mining

Halldin CN, Hale J, Weissman D, Attfield M, Parker JE, Petsonk E, Cohen R, Markle T, Blackley D, Wolfe A, Tallaksen R, Laney AS [2019]. The National Institute for Occupational Safety and Health B Reader Certification Program—an update report (1987–2018) and future directions. J Occup Environ Med *61*(12):1045–1051.
NIOSHTIC-2: **20057704** | NORA: Construction / Mining

Ham JE, Siegel PD, Maibach H [2019]. Undeclared formaldehyde levels in patient consumer products: formaldehyde test kit utility. Cutan Ocul Toxicol *38*(2):112–117.
NIOSHTIC-2: **20055331**

Hard DL, Marsh SM, Merinar TR, Bowyer ME, Miles ST, Loflin ME, Moore PH [2019]. Summary of recommendations from the National Institute for Occupational Safety and Health Fire Fighter Fatality Investigation and Prevention Program, 2006–2014. J Saf Res *68*:21–25.
NIOSHTIC-2: **20054006** | NORA: Public Safety

Harris ML, Sapko MJ [2019]. Floor dust erosion during early stages of coal dust explosion development. Int J Min Sci Technol *29*(6):825–830.
NIOSHTIC-2: **20057399** | NORA: Mining

Hartley D, Ridenour M, Wassell JT [2019]. Workplace violence prevention for nurses. Am J Nurs *119*(9):19–20.
NIOSHTIC-2: **20057172** | NORA: Healthcare and Social Assistance

Hathaway QA, Durr AJ, Shepherd DL, Pinti MV, Brandebura AN, Nichols CE, Kunovac A, Goldsmith WT, Friend SA, Abukabda AB, Fink GK, Nurkiewicz TR, Hollander JM [2019]. miRNA-378a as a key regulator of cardiovascular health following engineered nanomaterial inhalation exposure. Nanotoxicology *76*(6):398–406.
NIOSHTIC-2: **20054699** | NORA: Manufacturing

Hawley B, Gibbs JL, Cummings K, Stefaniak AB, Park JY, Stanton M, Virji MA [2019]. A field evaluation of a single sampler for respirable and inhalable indium and dust measurements at an indium-tin oxide manufacturing facility. J Occup Environ Hyg *16*(1):66–77.
NIOSHTIC-2: **20053232** | NORA: Manufacturing

Hawley Blackley B, Cummings KJ, Stanton M, Stefaniak AB, Gibbs JL, Park JY, Harvey RR, Virji MA [2019]. Work tasks as determinants of respirable and inhalable indium exposure among workers at an indium-tin oxide production and reclamation facility. Ann Work Expo Health: Epub ahead of print, 2019 December.
NIOSHTIC-2: 20057994 | NORA: Manufacturing

Hayashi Y, Foreman AM, Friedel JE, Wirth O [2019]. Threat appeals reduce impulsive decision making associated with texting while driving: a behavioral economic approach. PLoS One *14*(3):e0213453.
NIOSHTIC-2: 20055102

Hayashi Y, Friedel JE, Foreman AM, Wirth O [2019]. A behavioral economic analysis of demand for texting while driving. Psychol Rec *69*(2):225–237.
NIOSHTIC-2: 20055389

Heberger JR [2019]. Demonstrating the financial impact of mining injuries with the "Safety Pays in Mining" web application. Trans Soc Min Metall Explor *344*:203–209.
NIOSHTIC-2: 20055455 | NORA: Mining

Henn SA, Butler C, Li J, Sussell A, Hale C, Broyles G, Reinhardt T [2019]. Carbon monoxide exposures among U.S. wildland firefighters by work, fire, and environmental characteristics and conditions. J Occup Environ Hyg *16*(12):793–803.
NIOSHTIC-2: 20057793 | NORA: Public Safety / Manufacturing

Henneberger PK, Patel JR, de Groene GJ, Beach J, Tarlo SM, Pal TM, Curti S [2019]. Workplace interventions for treatment of occupational asthma. Cochrane Database Syst Rev *10*(10):CD006308.
NIOSHTIC-2: 20057572

Hindman B, Ma Q [2019]. Carbon nanotubes and crystalline silica stimulate robust ROS production, inflammasome activation, and IL-1ß secretion in macrophages to induce myofibroblast transformation. Arch Toxicol *93*(4):887–907.
NIOSHTIC-2: 20055196 | NORA: Manufacturing

Hines CJ, Lentz TJ, McKernan L, Rane P, Whittaker C [2019]. Application of the draft NIOSH occupational exposure banding process to bisphenol A: a case study. J Occup Environ Hyg *16*(2):120–128.
NIOSHTIC-2: 20053744 | NORA: Manufacturing

Hodson L, Eastlake A, Herbers R [2019]. An evaluation of engineered nanomaterial safety data sheets for safety and health information post implementation of the revised hazard communication standard. J Chem Health Saf *26*(2):12–18.
NIOSHTIC-2: 20053675 | NORA: Manufacturing

Hoffman HJ, Dobie RA, Losonczy KG, Themann CL, Flamme GA [2019]. Kids nowadays hear better than we did: declining prevalence of hearing loss in U.S. youth, 1966–2010. Laryngoscope *129*(8):1922–1939.
NIOSHTIC-2: **20053320**

Holst MM, Wirth MD, Mnatsakanova A, Burch JB, Charles LE, Tinney-Zara C, Fekedulegn D, Andrew ME, Hartley TA, Violanti JM [2019]. Shiftwork and biomarkers of subclinical cardiovascular disease: the BCOPS Study. J Occup Environ Med *61*(5):391–396.
NIOSHTIC-2: **20054474** | NORA: Public Safety

Horn GP, Stewart JW, Kesler RM, DeBlois JP, Kerber S, Fent KW, Scott WS, Fernhall B, Smith DL [2019]. Firefighter and fire instructor's physiological responses and safety in various training fire environments. Saf Sci *116*:287–294.
NIOSHTIC-2: **20055381**

Hosokawa Y, Casa DJ, Trtanj JM, Belval LN, Deuster PA, Giltz SM, Grundstein AJ, Hawkins MD, Huggins RA, Jacklitsch B, Jardine JF, Jones H, Kazman JB, Reynolds ME, Stearns RL, Vanos JK, Williams AL, Williams WJ [2019]. Activity modification in heat: critical assessment of guidelines across athletic, occupational, and military settings in the USA. Int J Biometeorol *63*(3):405–427.
NIOSHTIC-2: **20054785** | NORA: Agriculture, Forestry and Fishing / Construction / Public Safety

Howards PP, Terrell ML, Jacobson MH, Taylor KC, Kesner JS, Meadows JW, Spencer JB, Manatunga AK, Marcus M [2019]. Polybrominated biphenyl exposure and menstrual cycle function. Epidemiology *30*(5):687–694.
NIOSHTIC-2: **20056340**

Hubbs AF, Kreiss K, Cummings KJ, Fluharty KL, O'Connell R, Cole A, Dodd TM, Clingerman SM, Flesher JR, Lee R, Pagel S, Battelli LA, Cumpston A, Jackson M, Kashon M, Orandle MS, Fedan JS, Sriram K [2019]. Flavorings-related lung disease: a brief review and new mechanistic data. Toxicol Pathol *47*(8):1021–1026.
NIOSHTIC-2: **20057773** | NORA: Manufacturing

IARC Monographs Priorities Group, Marques MM, Berrington de Gonzalez A, Beland FA, Browne P, Demers PA, Lachenmeier DW, Bahadori T, Barupal DK, Belpoggi F, Comba P, Dai M, Daniels RD, Ferreccio C, Grigoriev OA, Hong YC, Hoover RN, Kanno J, Kogevinas M, Lasfargues G, Malekzadeh R, Masten S, Newton R, Norat T, Pappas JJ, Queiroz Moreira C, Rodríguez T, Rodríguez-Guzmán J, Sewram V, Zeise L, Benbrahim-Tallaa L, Bouvard V, Cree IA, El Ghissassi F, Girschik J, Grosse Y, Hall AL, Turner MC, Straif K, Korenjak M, McCormack V, Müller K, Schüz J, Zavadil J, Schubauer-Berigan MK, Guyton KZ [2019]. Advisory Group recommendations on priorities for the IARC Monographs. Lancet Oncol *20*(6):763–764.
NIOSHTIC-2: **20056823**

Iavicoli I, Leso V, Piacci M, Cioffi DL, Guseva Canu I, Schulte PA [2019]. An exploratory assessment of applying risk management practices to engineered nanomaterials. Int J Environ Res Public Health *16*(18):E3290.
NIOSHTIC-2: **20057298**

Irvin-Barnwell EA, Cruz M, Maniglier-Poulet C, Cabrera J, Rivera Diaz J, De La Cruz Perez R, Forrester C, Shumate A, Mutter J, Graziano L, Rivera Gonzalez L, Malilay J, Raheem M [2019]. Evaluating disaster damages and operational status of health-care facilities during the emergency response phase of Hurricane Maria in Puerto Rico. Disaster Med Public Health Prep: Epub ahead of print, 2019 October.
NIOSHTIC-2: **20057782**

Jacklitsch BL, King KA, Vidourek RA, Merianos AL [2019]. Heat-related knowledge, perceptions, and barriers among oil spill cleanup responders. Saf Sci *120*:666–671.
NIOSHTIC-2: **20056825** | NORA: Agriculture, Forestry and Fishing / Construction

Jacksha R, Sunderman C [2019]. Data transport over leaky feeder systems using internet-protocol-enabled land mobile radios. Trans Soc Min Metall Explor *344*:210–213.
NIOSHTIC-2: **20055456**

Jacksha R, Zhou C, Sunderman C [2019]. Measurement of the influence of antennas on radio signal propagation in underground mines and tunnels. Prog Electromagn Res C *94*:1–12.
NIOSHTIC-2: **20057389** | NORA: Mining

Jaderson M, Park J-H [2019]. Evaluation of matrix effects in quantifying microbial secondary metabolites in indoor dust using ultraperformance liquid chromatograph-tandem mass spectrometer. Saf Health Work *10*(2):196–204.
NIOSHTIC-2: **20054313** | NORA: Healthcare and Social Assistance / Services

Jatlaoui TC, Wiltz JL, Kabbani S, Siegel DA, Koppaka R, Montandon M, Hocevar Adkins S, Weissman DN, Koumans EH, O'Hegarty M, O'Sullivan MC, Ritchey MD, Chatham-Stephens K, Kiernan EA, Layer M, Reagan-Steiner S, Legha JK, Shealy K, King BA, Jones CM, Baldwin GT, Rose DA, Delaney LJ, Briss P, Evans ME, Lung Injury Response Clinical Working Group [2019]. Update: interim guidance for health care providers for managing patients with suspected e-cigarette, or vaping, product use-associated lung injury—United States, November 2019. MMWR *68*(46):1081–1086.
NIOSHTIC-2: **20057840**

Jenkins EN, Allison P, Innes K, Violanti JM, Andrew ME [2019]. Depressive symptoms among police officers: associations with personality and psychosocial factors. J Police Crim Psychol *34*(1):67–77.
NIOSHTIC-2: **20055654** | NORA: Public Safety

Jessu KV, Kostecki TR, Spearing AJS, Esterhuizen GS [2019]. Effect of discontinuity dip direction on hard rock pillar strength. Trans Soc Min Metall Explor *344*:25–30.
NIOSHTIC-2: **20055462** | NORA: Mining

Johnson CY, Rocheleau CM, Grajewski B, Howards PP [2019]. Structure and control of healthy worker effects in studies of pregnancy outcomes. Am J Epidemiol *188*(3):562–569.
NIOSHTIC-2: **20054194**

Johnson CY, Tanz LJ, Lawson CC, Howards PP, Bertone-Johnson ER, Eliassen AH, Schernhammer ES, Rich-Edwards JW [2019]. Anti-Müllerian hormone levels in nurses working night shifts. Arch Environ Occup Health: Epub ahead of print, 2019 April.
NIOSHTIC-2: **20055467**

Johnson MB, Kingston R, Utell MJ, Wells JR, Singal M, Troy WR, Horenziak S, Dalton P, Ahmed FK, Herz RS, Osimitz TG, Prawer S, Yin S [2019]. Exploring the science, safety, and benefits of air care products: perspectives from the inaugural air care summit. Inhal Toxicol *31*(1):12–24.
NIOSHTIC-2: **20055685** | NORA: Healthcare and Social Assistance / Services

Kahn SA, Leonard C, Siordia C [2019]. Firefighter fatalities: crude mortality rates and risk factors for line of duty injury and death. J Burn Care Res *40*(2):196–201.
NIOSHTIC-2: **20052274** | NORA: Public Safety

Kahveci Z, Kilinc-Balci S, Yorio PL [2019]. Critical investigation of glove-gown interface barrier performance in simulated surgical settings. J Occup Environ Hyg *16*(7):498–506.
NIOSHTIC-2: **20055597** | NORA: Healthcare and Social Assistance / Public Safety

Kang S, Liang H, Qian Y, Qi C [2019]. The composition of emissions from sawing Corian®, a solid surface composite material. Ann Work Expo Health *63*(4):480–483.
NIOSHTIC-2: **20055032** | NORA: Construction / Manufacturing

Kassem AM, Witte TK, Nett RJ, Carter KK [2019]. Characteristics associated with negative attitudes toward mental illness among U.S. veterinarians. J Am Vet Med Assoc *254*(8):979–985.
NIOSHTIC-2: **20055324**

Kennedy A, Brame J, Rycroft T, Wood M, Zemba V, Weiss C Jr., Hull M, Hill C, Geraci C, Linkov I [2019]. A definition and categorization system for advanced materials: the foundation for risk-informed environmental health and safety testing. Risk Anal *39*(8):1783–1795.
NIOSHTIC-2: **20055350** | NORA: Manufacturing

Kerber S, Regan JW, Horn GP, Fent KW, Smith DL [2019]. Effect of firefighting intervention on occupant tenability during a residential fire. Fire Technol *55*(6):2289–2316.
NIOSHTIC-2: **20055941**

Khaliullin TO, Kisin ER, Yanamala N, Guppi S, Harper M, Lee T, Shvedova AA [2019]. Comparative cytotoxicity of respirable surface-treated/untreated calcium carbonate rock dust particles in vitro. Toxicol Appl Pharmacol *362*:67–76.
NIOSHTIC-2: **20053634** | NORA: Mining

Kim BH, Larson MK [2019]. Development of a fault-rupture environment in 3D: a numerical tool for examining the mechanical impact of a fault on underground excavations. Int J Min Sci Technol *29*(1):105–111.
NIOSHTIC-2: **20054014** | NORA: Mining

Kim J-H, Seo Y, Quinn T, Yorio P, Roberge R [2019]. Intersegmental differences in facial warmth sensitivity during rest, passive heat and exercise. Int J Hyperthermia *36*:654–659.
NIOSHTIC-2: **20056670**

Kiratipaiboon C, Stueckle TA, Ghosh R, Rojanasakul LW, Chen YC, Dinu CZ, Rojanasakul Y [2019]. Acquisition of cancer stem cell-like properties in human small airway epithelial cells after a long-term exposure to carbon nanomaterials. Environ Sci Nano *6*(7):2152–2170.
NIOSHTIC-2: **20056637** | NORA: Manufacturing

Klepaker G, Svendsen MV, Hertel JK, Holla OL, Henneberger PK, Kongerud J, Fell AKM [2019]. Influence of obesity on work ability, respiratory symptoms, and lung function in adults with asthma. Respiration *98*(6):473–481.
NIOSHTIC-2: **20057175**

Kornberg TG, Stueckle TA, Coyle J, Derk R, Demokritou P, Rojanasakul Y, Rojanasakul LW [2019]. Iron oxide nanoparticle-induced neoplastic-like cell transformation in vitro is reduced with a protective amorphous silica coating. Chem Res Toxicol *32*(12):382–2397.
NIOSHTIC-2: **20057888** | NORA: Manufacturing

Krajnak K, Waugh S, Sarkisian K [2019]. Can blood flow be used to monitor changes in peripheral vascular function that occur in response to segmental vibration exposure? J Occup Environ Med *61*(2):162–167.
NIOSHTIC-2: **20054564** | NORA: Manufacturing / Wholesale and Retail Trade

Krajnak K, Waugh S, Stefaniak AB, Schwegler-Berry D, Roach KA, Barger M, Roberts JR [2019]. Exposure to graphene nanoparticles induces changes in measures of vascular/renal function in a load and form-dependent manner in mice. J Toxicol Environ Health, A *82*(12):711–726.
NIOSHTIC-2: **20056891** | NORA: Manufacturing

Krieg EF Jr. [2019]. The relationships between blood lead levels and serum thyroid stimulating hormone and total thyroxine in the third National Health and Nutrition Examination Survey. J Trace Elem Med Biol *51*:130–137.
NIOSHTIC-2: **20053482**

Ku BK, Birch ME [2019]. Aerosolization and characterization of carbon nanotube and nanofiber materials: relationship between aerosol properties and bulk density. J Aerosol Sci *127*:38–48.
NIOSHTIC-2: **20053612**

Ku BK, Deye G [2019]. Collection efficiency of airborne fibers on nylon mesh screens with different pore sizes and configurations. Aerosol Sci Tech *53*(10):1217–1227.
NIOSHTIC-2: **20057143**

Kurth L, Casey M, Schleiff P, Halldin C, Mazurek J, Blackley D [2019]. Medicare claims paid by the Federal Black Lung Benefits Program: U.S. medicare beneficiaries, 1999–2016. J Occup Environ Med *61*(12):e510–e515.
NIOSHTIC-2: **20057784**

Kurth L, Doney B, Halldin C, Hale J, Frenk SM [2019]. Airflow obstruction among ever-employed U.S. adults aged 18–79 years by industry and occupation: NHANES 2007–2008 to 2011–2012. Am J Ind Med *62*(1):30–42.
NIOSHTIC-2: **20053921**

Lawson CC, Johnson CY, Nassan FL, Connor TH, Boiano JM, Rocheleau CM, Chavarro JE, Rich-Edwards JW [2019]. Antineoplastic drug administration by pregnant and nonpregnant nurses: an exploration of the use of protective gloves and gowns. Am J Nurs *119*(1):28–35.
NIOSHTIC-2: **20054177** | NORA: Services / Transportation, Warehousing and Utilities / Healthcare and Social Assistance

Lawson SM, Masterson EA, Azman AS [2019]. Prevalence of hearing loss among noise-exposed workers within the Mining and Oil and Gas Extraction sectors, 2006–2015. Am J Ind Med *62*(10):826–837.
NIOSHTIC-2: **20056638**

Le Prell CG, Hammill TL, Murphy WJ [2019]. Noise-induced hearing loss and its prevention: integration of data from animal models and human clinical trials. J Acoust Soc Am *146*(5):4051–4074.
NIOSHTIC-2: **20058070**

Le Prell CG, Hammill TL, Murphy WJ [2019]. Noise-induced hearing loss: translating risk from animal models to real-world environments. J Acoust Soc Am *146*(5):3646–3651.
NIOSHTIC-2: **20058017**

LeBouf RF, Aldridge M [2019]. Carbon monoxide emission rates from roasted whole bean and ground coffee. J Air Waste Manage Assoc *69*(1):89–96.
NIOSHTIC-2: **20052810** | NORA: Healthcare and Social Assistance / Manufacturing

LeBouf RF, Hawley B, Cummings KJ [2019]. Potential hazards not communicated in safety data sheets of flavoring formulations, including diacetyl and 2,3-pentanedione. Ann Work Expo Health *63*(1):124–130.
NIOSHTIC-2: **20053610** | NORA: Healthcare and Social Assistance / Manufacturing

Lee EG, Grimson PJ, Chisholm WP, Kashon ML, He X, L'Orange C, Volckens J [2019]. Performance evaluation of disposable inhalable aerosol sampler at a copper electrorefinery. J Occup Environ Hyg *16*(3):250–257.
NIOSHTIC-2: **20054291** | NORA: Manufacturing

Lee EG, Lamb J, Savic N, Basinas I, Gasic B, Jung C, Kashon ML, Kim J, Tischer M, van Tongeren M, Vernez D, Harper M [2019]. Evaluation of exposure assessment tools under REACH: part I—tier 1 tools. Ann Work Expo Health *63*(2):218–229.
NIOSHTIC-2: **20053997** | NORA: Manufacturing

Lee EG, Lamb J, Savic N, Basinas I, Gasic B, Jung C, Kashon ML, Kim J, Tischer M, van Tongeren M, Vernez D, Harper M [2019]. Evaluation of exposure assessment tools under REACH: part II—higher tier tools. Ann Work Expo Health *63*(2):230–241.
NIOSHTIC-2: **20053996** | NORA: Manufacturing

Lemons AR, Croston TL, Goldsmith WT, Barnes MA, Jaderson MA, Park J-H, McKinney W, Beezhold DH, Green BJ [2019]. Cultivation and aerosolization of *Stachybotrys chartarum* for modeling pulmonary inhalation exposure. Inhal Toxicol *31*(13–14):446–456.
NIOSHTIC-2: **20058216**

Li J, Carr J, Zhou C, Jobes CC, Swanson LR, Bellanca J [2019]. The influence of a continuous mining machine and roof/rib mesh on magnetic proximity detection systems. Min Metall Explor *36*(4):751–756.
NIOSHTIC-2: **20056105**

Li J, DuCarme J, Reyes M, Smith A [2019]. Investigation of the influence of a large steel plate on the magnetic field distribution of a magnetic proximity detection system. Trans Soc Min Metall Explor *344*:132–137.
NIOSHTIC-2: **20055443** | NORA: Mining

Li J, Smith A, Carr J, Whisner B [2019]. Influence of temperature on generator current and magnetic field of a proximity detection system. Min Metall Explor *36*(3):541–545.
NIOSHTIC-2: **20056094**

Li M, Furlong JL, Yorio PL, Protnoff L [2019]. A new approach to measure the resistance of fabric to liquid and viral penetration. PLoS One *14*(2):e0211827.
NIOSHTIC-2: **20054846** | NORA: Healthcare and Social Assistance / Public Safety

Lin C-C, Law BF, Siegel PD, Hettick JM [2019]. Circulating miRs-183-5p, -206-3p and -381-3p may serve as novel biomarkers for 4,4'-methylene diphenyl diisocyanate exposure. Biomarkers *24*(1):76–90.
NIOSHTIC-2: **20054083** | NORA: Manufacturing

Lindsley WG, Blachere FM, McClelland TL, Neu DT, Mnatsakanova A, Martin SB Jr., Mead KR, Noti JD [2019]. Efficacy of an ambulance ventilation system in reducing EMS worker exposure to airborne particles from a patient cough aerosol simulator. J Occup Environ Hyg *16*(12):804–816.
NIOSHTIC-2: **20057709** | NORA: Healthcare and Social Assistance

Lowe BD, Billotte WG, Peterson DR [2019]. ASTM F48 formation and standards for industrial exoskeletons and exosuits. IISE Trans Occup Ergon Hum Factors *7*(3–4):230–236.
NIOSHTIC-2: **20055332** | NORA: Manufacturing

Lowe BD, Dempsey PG, Jones EM [2019]. Ergonomics assessment methods used by ergonomics professionals. Appl Ergon *81*:102882.
NIOSHTIC-2: **20056466**

Lucas TJ, Holodniy M, de Perio MA, Perkins KM, Benowitz I, Jackson D, Kracalik I, Grant M, Oda G, Powell KM [2019]. Notes from the field: unexplained dermatologic, respiratory, and ophthalmic symptoms among health care personnel at a hospital—West Virginia, November 2017—January 2018. MMWR *68*(44):1006–1007.
NIOSHTIC-2: **20057798**

Luckhaupt SE, Dahlhamer JM, Gonzales GT, Lu ML, Groenewold M, Sweeney MH, Ward BW [2019]. Prevalence, recognition of work-relatedness, and effect on work of low back pain among U.S. workers. Ann Intern Med 171(4):301–304.
NIOSHTIC-2: **20056034** | NORA: Manufacturing

Lutz TJ, Bissert PT, Homce GT, Yonkey JA [2019]. Refuge alternatives relief valve testing and design with updated test stand. Trans Soc Min Metall Explor *344*:90–94.
NIOSHTIC-2: **20055363** | NORA: Mining

Ma CC, Hartley TA, Sarkisian K, Fekedulegn D, Mnatsakanova A, Owens S, Gu JK, Tinney-Zara C, Violanti JM, Andrew ME [2019]. Influence of work characteristics on the association between police stress and sleep quality. Saf Health Work *10*(1):30–38.
NIOSHTIC-2: **20052931** | NORA: Public Safety

Mandler WK, Qi C, Orandle MS, Sarkisian K, Mercer RR, Stefaniak AB, Knepp AK, Bowers LN, Battelli LA, Shaffer J, Friend SA, Qian Y, Sisler JD [2019]. Mouse pulmonary response to dust from sawing Corian®, a solid-surface composite material. J Toxicol Environ Health, A *82*(11):643–663.
NIOSHTIC-2: **20056574** | NORA: Manufacturing

Martell MJ, Sammarco JJ, Macdonald BD [2019]. Effects of light spectrum on luminance measurements in underground coal mines. IEEE Trans Ind Appl *55*(6):6670–6677.
NIOSHTIC-2: **20057402** | NORA: Mining

Mathias PI, MacKenzie BA, Toennis CA, Connor TH [2019]. Survey of guidelines and current practices for safe handling of antineoplastic and other hazardous drugs used in 24 countries. J Oncol Pharm Pract *25*(1):148–162.
NIOSHTIC-2: **20050350** | NORA: Healthcare and Social Assistance

Mayer AC, Fent KW, Bertke S, Horn GP, Smith DL, Kerber S, La Guardia MJ [2019]. Firefighter hood contamination: efficiency of laundering to remove PAHs and FRs. J Occup Environ Hyg *16*(2):129–140.
NIOSHTIC-2: **20054639** | NORA: Public Safety

Mayton AG, Wible D [2019]. Preventing exposure to whole-body vibration. Pit Quarry *111*(7):72–76.
NIOSHTIC-2: **20054257**

Mazurek JM, Henneberger PK [2019]. Use of population data for assessing trends in work-related asthma mortality. Curr Opin Allergy Clin Immunol *19*(2):98–104.
NIOSHTIC-2: **20054261**

McCanlies EC, Ma CC, Gu JK, Fekedulegn D, Sanderson WT, Ludena-Rodriguez YJ, Hertz-Picciotto I [2019]. The CHARGE study: an assessment of parental occupational exposures and autism spectrum disorder. Occup Environ Med *76*(9):644–651.
NIOSHTIC-2: **20056321**

McCanlies EC, Mnatsakanova A, Andrew ME, Violanti JM, Hartley TA [2019]. Child care stress and anxiety in police officers moderated by work factors. Policing *42*(6):992–1006.
NIOSHTIC-2: **20056411** | NORA: Public Safety

McNinch M, Parks D, Jacksha R, Miller A [2019]. Leveraging IIoT to improve machine safety in the mining industry. Min Metall Explor *36*(4):675–681.
NIOSHTIC-2: **20056088** | NORA: Mining

Menéndez C, Socias-Morales C, Konda S, Ridenour M [2019]. Individual, business-related, and work environment factors associated with driving tired among taxi drivers in two metropolitan U.S. cities. J Saf Res *70*:71–77.
NIOSHTIC-2: **20056191** | NORA: Transportation, Warehousing and Utilities

Meyers AR, Al-Tarawneh IS, Bushnell PT, Wurzelbacher SJ, Lampl MP, Tseng C-Y, Turner DM, Morrison CA [2019]. Degree of integration between occupational safety and health programs and wellness programs: first-year results from an insurer-sponsored wellness grant for smaller employers. J Occup Environ Med *61*(9):704–717.
NIOSHTIC-2: **20056355** | NORA: Manufacturing

Michalovicz LT, Locker AR, Kelly KA, Miller JV, Barnes Z, Fletcher MA, Miller DB, Klimas NG, Morris M, Lasley SM, O'Callaghan JP [2019]. Corticosterone and pyridostigmine/DEET exposure attenuate peripheral cytokine expression: supporting a dominant role for neuroinflammation in a mouse model of Gulf War Illness. Neurotoxicology *70*:26–32.
NIOSHTIC-2: **20053525**

Michhalovicz LT, Kelly KA, Vashishtha S, Ben-Hamo R, Efroni S, Miller JV, Locker AR, Sullivan K, Broderick G, Miller DB, O'Callaghan JP [2019]. Astrocyte-specific transcriptome analysis using the ALDH1L1 bacTRAP mouse reveals novel biomarkers of astrogliosis in response to neurotoxicity. J Neurochem *150*(4):420–440.
NIOSHTIC-2: **20056660** | NORA: Manufacturing

Mischler SE, Tuchman DP, Cauda EG, Colinet JF, Rubinstein EN [2019]. Testing a revised inlet for the personal dust monitor. J Occup Environ Hyg *16*(3):242–249.
NIOSHTIC-2: **20054234**

Moore M [2019]. Motor vehicle crash and struck-by LODD investigations: NIOSH case study and recommendations. Police Chief *86*(10):18, 20.
NIOSHTIC-2: **20057425**

Moritz ED, Zapata LB, Lekiachvili A, Glidden E, Annor FB, Werner AK, Ussery EN, Hughes MM, Kimball A, DeSisto CL, Kenemer B, Shamout M, Garcia MC, Reagan-Steiner S, Petersen EE, Koumans EH, Ritchey MD, King BA, Jones CM, Briss PA, Delaney L, Patel A, Polen KD, Sives K, Meaney-Delman D, Chatham-Stephens K, Lung Injury Response Epidemiology/Surveillance Group [2019]. Update: characteristics of patients in a national outbreak of e-cigarette, or vaping, product use-associated lung injuries—United States, October 2019. MMWR *68*(43):985–989.
NIOSHTIC-2: **20057600**

Mostovenko E, Young T, Muldoon PP, Bishop L, Canal CG, Vucetic A, Zeidler-Erdely PC, Erdely A, Campen MJ, Ottens AK [2019]. Nanoparticle exposure driven circulating bioactive peptidome causes systemic inflammation and vascular dysfunction. Part Fibre Toxicol *16*:20.
NIOSHTIC-2: **20056044** | NORA: Manufacturing

Murphy WJ, Xiang N [2019]. Room acoustic modeling and auralization at an indoor firing range. J Acoust Soc Am *146*(5):3868–3872.
NIOSHTIC-2: **20058006**

Naimo MA, Rader EP, Ensey J, Kashon ML, Baker BA [2019]. Reduced frequency of resistance-type exercise training promotes adaptation of the aged skeletal muscle microenvironment. J Appl Physiol *126*(4):1074–1087.
NIOSHTIC-2: **20054550**

Nasarwanji MF, Sun K [2019]. Burden associated with nonfatal slip and fall injuries in the surface stone, sand, and gravel mining industry. Saf Sci *120*:625–635.
NIOSHTIC-2: **20056882**

Nassan FL, Lawson CC, Gaskins AJ, Johnson CY, Boiano JM, Rich-Edwards JW, Chavarro JE [2019]. Administration of antineoplastic drugs and fecundity in female nurses. Am J Ind Med *62*(8):672–679.
NIOSHTIC-2: **20056263** | NORA: Healthcare and Social Assistance

Neu-Baker NM, Eastlake AC, Brenner SA [2019]. Sample preparation method for visualization of nanoparticulate captured on mixed cellulose ester filter media by enhanced darkfield microscopy and hyperspectral imaging. Microsc Res Tech *82*(6):878–883.
NIOSHTIC-2: **20054925** | NORA: Manufacturing

Noll J, Matetic RJ, Li J, Zhou C, DuCarme J, Reyes M, Srednicki J [2019]. Electromagnetic interference from personal dust monitors and other electronic devices with proximity detection systems. Trans Soc Min Metall Explor *344*:112–119.
NIOSHTIC-2: **20055364** | NORA: Mining

O'Callaghan JP, Miller DB [2019]. Neuroinflammation disorders exacerbated by environmental stressors. Metab Clin Exp *100*(Suppl):153951.
NIOSHTIC-2: **20056862** | NORA: Manufacturing

Organiscak JA, Klima SS, Pollock DE [2019]. Empirical engineering models for airborne respirable dust capture from water sprays and wet scrubbers. Trans Soc Min Metall Explor *344*:176–183.
NIOSHTIC-2: **20055450** | NORA: Mining

Pacurari M, Waugh S, Krajnak K [2019]. Acute vibration induces peripheral nerve sensitization in a rat tail model: possible role of oxidative stress and inflammation. Neuroscience *398*:263–272.
NIOSHTIC-2: **20054175** | NORA: Manufacturing / Wholesale and Retail Trade

Pampena JD, Cauda EG, Chubb LG, Meadows JJ [2019]. Use of the field-based silica monitoring technique in a coal mine: a case study. Min Metall Explor: Epub ahead of print, 2019 December.
NIOSHTIC-2: **20058158** | NORA: Mining

Park RM [2019]. Risk assessment for metalworking fluids and respiratory outcomes. Saf Health Work *10*(4):428–436.
NIOSHTIC-2: **20057541**

Parks D, McNinch M, Jacksha R, Nickerson H, Miller A [2019]. Intelligent monitoring system for improved worker safety during plant operation and maintenance. Min Eng *71*(3):34–38.
NIOSHTIC-2: **20055980** | NORA: Mining

Parks DA, Raj KV, Berry CA, Weakley AT, Griffiths PR, Miller AL [2019]. Towards a field-portable real-time organic and elemental carbon monitor. Min Metall Explor *36*(4):765–772.
NIOSHTIC-2: **20056011** | NORA: Mining

Patts JR, Cecala AB, Rider JP, Organiscak JA [2019]. Improving protection against respirable dust at an underground crusher booth. Trans Soc Min Metall Explor *344*:198–202.
NIOSHTIC-2: **20055454** | NORA: Mining

Patts JR, Tuchman DP, Rubinstein EN, Cauda EG, Cecala AB [2019]. Performance comparison of real-time light scattering dust monitors across dust types and humidity levels. Min Metall Explor *36*(4):741–749.
NIOSHTIC-2: **20056651** | NORA: Mining

Peckham T, Fujishiro K, Hajat A, Flaherty BP, Seixas N [2019]. Evaluating employment quality as a determinant of health in a changing labor market. RSF *5*(4):258–281.
NIOSHTIC-2: **20057435**

Perera IE, Harris ML, Sapko ML [2019]. Examination of classified rock dust (treated and untreated) performance in a 20-L explosion chamber. J Loss Prev Process Ind *62*:103943.
NIOSHTIC-2: **20057669** | NORA: Mining

Pirela SV, Bhattacharya K, Wang Y, Zhang Y, Wang G, Christophi CA, Godleski J, Thomas T, Qian Y, Orandle MS, Sisler JD, Bello D, Castranova V, Demokritou P [2019]. A 21-day sub-acute, whole-body inhalation exposure to printer-emitted engineered nanoparticles in rats: exploring pulmonary and systemic effects. NanoImpact *15*:100176.
NIOSHTIC-2: **20057608**

Poirot E, Levine MZ, Russell K, Stewart RJ, Pompey JM, Chiu S, Fry AM, Gross L, Havers FP, Li ZN, Liu F, Crossa A, Lee CT, Boshuizen V, Rakeman JL, Slavinski S, Harper S, Gould LH [2019]. Detection of avian influenza A(H7N2) virus infection among animal shelter workers using a novel serological approach—New York City, 2016–2017. J Infect Dis *219*(11):1688–1696.
NIOSHTIC-2: **20053777** | NORA: Public Safety

Pollard J, Kosmoski C, Porter WL, Kocher L, Whitson A, Nasarwanji M [2019]. Operators' views of mobile equipment ingress and egress safety. Int J Ind Ergon *72*:272–280.
NIOSHTIC-2: **20056221** | NORA: Mining

Portnoff L, Jaques PA, Furlong JL [2019]. The surface tension of synthetic blood used for ASTM F1670 penetration tests. J Test Eval *47*(2):1635–1644.
NIOSHTIC-2: **20052073** | NORA: Healthcare and Social Assistance / Public Safety

Pratt SG, Bell JL [2019]. Analytical observational study of nonfatal motor vehicle collisions and incidents in a light-vehicle sales and service fleet. Accid Anal Prev *129*:126–135.
NIOSHTIC-2: **20056113**

Quinn TD, Wu F, Mody D, Bushover B, Mendez DD, Schiff M, Fabio A [2019]. Associations between neighborhood social cohesion and physical activity in the United States, National Health Interview Survey, 2017. Prev Chronic Dis *16*:E163.
NIOSHTIC-2: **20058214** | NORA: Healthcare and Social Assistance

Radonovich LJ Jr., Simberkoff MS, Bessesen MT, Brown AC, Cummings DAT, Gaydos CA, Los JG, Krosche AE, Gibert CL, Gorse GJ, Nyquist AC, Reich NG, Rodriguez-Barradas MC, Savor Price C, Perl TM [2019]. N95 respirators vs medical masks for preventing influenza among health care personnel: a randomized clinical trial. JAMA *322*(9):824–833.
NIOSHTIC-2: **20057229**

Radonovich LJ, Wizner K, LaVela SL, Lee ML, Findley K, Yorio P [2019]. A tolerability assessment of new respiratory protective devices developed for health care personnel: a randomized simulated clinical study. PLoS One *14*(1):e0209559.
NIOSHTIC-2: **20054379**

Raffaldi MJ, Seymour JB, Richardson J, Zahl E, Board M [2019]. Cemented paste backfill geomechanics at a narrow-vein underhand cut-and-fill mine. Rock Mech Rock Eng *52*(12):4925–4940.
NIOSHTIC-2: **20056207** | NORA: Mining

Ragan KR, Lunsford NB, Thomas CC, Tai EW, Sussell A, Holman DM [2019]. Skin cancer prevention behaviors among agricultural and construction workers in the United States, 2015. Prev Chronic Dis *16*:E15.
NIOSHTIC-2: **20054845**

Raj KV, Jacksha RD, Sunderman C, Pritchard CJ [2019]. Smart monitoring and control system test apparatus. Trans Soc Min Metall Explor *344*:62–66.
NIOSHTIC-2: **20055463** | NORA: Mining

Redeker NS, Caruso CC, Hashmi SD, Mullington JM, Grandner M, Morgenthaler TI [2019]. Workplace interventions to promote sleep health and an alert, healthy workforce. J Clin Sleep Med *15*(4):649–657.
NIOSHTIC-2: **20055821** | NORA: Public Safety

Reed WR, Beck TW, Zheng Y, Klima S, Driscoll J [2019]. Foam property tests to evaluate the potential for longwall shield dust control. Trans Soc Min Metall Explor *344*:67–73.
NIOSHTIC-2: **20055360** | NORA: Mining

Reed WR, Joy GJ, Shahan M, Klima S, Ross G [2019]. Laboratory results of a 3rd generation roof bolter canopy air curtain for respirable coal mine dust control. Int J Coal Sci Technol *6*(1):15–26.
NIOSHTIC-2: **20055248** | NORA: Mining

Reed WR, Klima S, Shahan M, Ross GJH, Singh K, Cross R, Grounds T [2019]. A field study of a roof bolter canopy air curtain (2nd generation) for respirable coal mine dust control. Int J Min Sci Technol *29*(5):711–720.
NIOSHTIC-2: **20055165** | NORA: Mining

Reed WR, Shahan M, Klima S, Ross G, Singh K, Cross R, Grounds T [2019]. Field study results of a 3rd generation roof bolter canopy air curtain for respirable coal mine dust control. Int J Coal Sci Technol: Epub ahead of print, 2019 November.
NIOSHTIC-2: **20057962** | NORA: Mining

Reed WR, Shahan M, Ross G, Singh K, Cross R, Grounds T [2019]. Field investigation to measure airflow velocities of a ram dump car using circular routing at a Midwestern underground coal mine: a case study. Environ Monit Assess *191*(8):515.
NIOSHTIC-2: **20056652** | NORA: Mining

Ridenour ML, Hendricks S, Hartley D, Blando JD [2019]. New Jersey home health care aides survey results. Home Health Care Manag Pract *31*(3):172–178.
NIOSHTIC-2: 20054940 | NORA: Healthcare and Social Assistance

Rinsky JL, Richardson DB, Kreiss K, Nylander-French L, Beane Freeman LE, London SJ, Henneberger PK, Hoppin JA [2019]. Animal production, insecticide use and self-reported symptoms and diagnoses of COPD, including chronic bronchitis, in the Agricultural Health Study. Environ Int *127*:764–772.
NIOSHTIC-2: 20055748

Roach KA, Anderson SE, Stefaniak AB, Shane HL, Kodali V, Kashon M, Roberts JR [2019]. Surface area- and mass-based comparison of fine and ultrafine nickel oxide lung toxicity and augmentation of allergic response in an ovalbumin asthma model. Inhal Toxicol *31*(8):299–324.
NIOSHTIC-2: 20057885 | NORA: Manufacturing

Roach KA, Stefaniak AB, Roberts JR [2019]. Metal nanomaterials: immune effects and implications of physicochemical properties on sensitization, elicitation, and exacerbation of allergic disease. J Immunotoxicol *16*:87–124.
NIOSHTIC-2: 20056352

Roggia AM, de Franca AG, Morata TC, Kreig E, Earl BR [2019]. Auditory system dysfunction in Brazilian gasoline station workers. Int J Audiol *58*(8):484–496.
NIOSHTIC-2: 20055942 | NORA: Manufacturing

Romero MA, Mumford PW, Roberson PA, Osburn SC, Parry HA, Kavazis AN, Gladden LB, Schwartz TS, Baker BA, Toedebusch RG, Childs TE, Booth FW, Roberts MD [2019]. Five months of voluntary wheel running downregulates skeletal muscle LINE-1 gene expression in rats. Am J Physiol, Cell Physiol *317*(6):C1313–C1323.
NIOSHTIC-2: 20057641

Rose C, Heinzerling A, Patel K, Sack C, Wolff J, Zell-Baran L, Weissman D, Hall E, Sooriash R, McCarthy RB, Bojes H, Korotzer B, Flattery J, Weinberg JL, Potocko J, Jones KD, Reeb-Whitaker CK, Reul NK, LaSee CR, Materna BL, Raghu G, Harrison R [2019]. Severe silicosis in engineered stone fabrication workers—California, Colorado, Texas, and Washington, 2017–2019. MMWR *68*(38):813–818.
NIOSHTIC-2: 20057308

Roussel C, Witt KL, Shaw PB, Connor TH [2019]. Meta-analysis of chromosomal aberrations as a biomarker of exposure in healthcare workers occupationally exposed to antineoplastic drugs. Mutat Res *781*:207–217.
NIOSHTIC-2: 20050417

Rowland JH III, Harteis SP, Yuan L [2019]. A survey of atmospheric monitoring systems in U.S. underground coal mines. Trans Soc Min Metall Explor *344*:81–84.
NIOSHTIC-2: **20055362** | NORA: Mining

Rowland JH, Yuan L, Thomas RA, Zhou L [2019]. Evaluation of different carbon monoxide sensors for battery charging stations. Min Metall Explor *36*(2):245–255.
NIOSHTIC-2: **20056109** | NORA: Mining

Russ KA, Thompson JA, Kashon M, Porter DW, Friend SA, McKinney W, Fedan JS [2019]. Comparison of multi-walled carbon nanotube and nitrogen-doped multi-walled carbon nanotube effects on lung function and airway reactivity in rats. Toxicol Appl Pharmacol *364*:153–163.
NIOSHTIC-2: **20053878** | NORA: Oil and Gas Extraction

Sammarco JJ, Macdonald BD, Demich B, Rubinstein EN, Martell MJ [2019]. LED lighting for improving trip object detection for a walk-thru roof bolter. Light Res Technol *51*(5):725–741.
NIOSHTIC-2: **20052163** | NORA: Mining

Sapko MJ, Harris ML, Perera IE, Zlochower IA, Weiss ES [2019]. Factors affecting the performance of trickle dusters for preventing explosive dust accumulations in return airways. J Loss Prev Process Ind *61*:1–7.
NIOSHTIC-2: **20055990** | NORA: Mining

Savic N, Lee EG, Gasic B, Vernez D [2019]. Inter-assessor agreement for TREXMO and its models outside the translation framework. Ann Work Expo Health *63*(7):814–820.
NIOSHTIC-2: **20055960** | NORA: Manufacturing

Schatzel SJ, Gangrade V, Addis JD, Hollerich CA, Chasko LL [2019]. Face ventilation on a bleederless longwall panel. Min Metall Explor *36*(3):531–539.
NIOSHTIC-2: **20056092** | NORA: Mining / Oil and Gas Extraction

Schier JG, Meiman JG, Layden J, Mikosz CA, VanFrank B, King BA, Salvatore PP, Weissman DN, Thomas J, Melstrom PC, Baldwin GT, Parker EM, Courtney-Long EA, Krishnasamy VP, Pickens CM, Evans ME, Tsay SV, Powell KM, Kiernan EA, Marynak KL, Adjemian J, Holton K, Armour BS, England LJ, Briss PA, Houry D, Hacker KA, Reagan-Steiner S, Zaki S, Meaney-Delman D, CDC 2019 Lung Injury Response Group [2019]. Severe pulmonary disease associated with electronic-cigarette-product use—interim guidance. MMWR *68*(36):787–790.
NIOSHTIC-2: **20057099**

Schulte PA, Leso V, Niang M, Iavicoli I [2019]. Current state of knowledge on the health effects of engineered nanomaterials in workers: a systematic review of human studies and epidemiological investigations. Scand J Work Environ Health *45*(3):217–238.
NIOSHTIC-2: **20054475**

Sears MM, Esterhuizen GS, Tulu IB [2019]. Overview of current U.S. longwall gateroad support practices: an update. Min Metall Explor *36*(6):1137–1144.
NIOSHTIC-2: **20056107** | NORA: Mining

Seaton MG, Maier A, Sachdeva S, Barton C, Ngai E, Lentz TJ, Rane PD, McKernan LT [2019]. A framework for integrating information resources for chemical emergency management and response. J Emerg Manag *17*(4):287–303.
NIOSHTIC-2: **20057184**

Seaton MG, Maier A, Sachdeva S, Barton C, Ngai E, Lentz TJ, Rane PD, McKernan LT [2019]. A framework for integrating information resources for chemical emergency management and response. Am J Disaster Med *14*(1):33–49.
NIOSHTIC-2: **20057171**

Seo Y, Powell J, Strauch A, Roberge R, Kenny GP, Kim J-H [2019]. Heat stress assessment during intermittent work under different environmental conditions and clothing combinations of effective wet bulb globe temperature (WBGT). J Occup Environ Hyg *16*(7):467–476.
NIOSHTIC-2: **20055920** | NORA: Public Safety

Seymour JB, Martin LA, Raffaldi MJ, Warren SN, Sandbak LA [2019]. Long-term stability of a 13.7 X 30.5-m (45 X 100-ft) undercut span beneath cemented rockfill at the Turquoise Ridge Mine, Nevada. Rock Mech Rock Eng *52*(12):4907–4923.
NIOSHTIC-2: **20056206** | NORA: Mining

Shahan M, Reed WR, Yekich M, Ross G [2019]. Field investigation to measure airflow velocities of a shuttle car using independent routes at a central Appalachian underground coal mine. Trans Soc Min Metall Explor *344*:191–197.
NIOSHTIC-2: **20055453** | NORA: Mining

Shahan MR, Reed WR [2019]. The design of a laboratory apparatus to simulate the dust generated by longwall shield advances. Int J Coal Sci Technol *6*(4):577–585.
NIOSHTIC-2: **20057823** | NORA: Mining

Shane HL, Long CM, Anderson SE [2019]. Novel cutaneous mediators of chemical allergy. J Immunotoxicol *16*(1):13–27.
NIOSHTIC-2: **20055068** | NORA: Healthcare and Social Assistance

Shane HL, Lukomska E, Kashon ML, Anderson SE [2019]. Topical application of the quaternary ammonium compound didecyldimethylammonium chloride activates type 2 innate lymphoid cells and initiates a mixed-type allergic response. Toxicol Sci *168*(2):508–518.
NIOSHTIC-2: **20054473** | NORA: Healthcare and Social Assistance

Shaw KA, Szablewski CM, Kellner S, Kornegay L, Bair P, Brennan S, Kunkes A, Davis M, McGovern OL, Winchell J, Kobayashi M, Burton N, de Perio MA, Gabel J, Drenzek C, Murphy J, Holsinger C, Forlano L [2019]. Psittacosis outbreak among workers at chicken slaughter plants, Virginia and Georgia, USA, 2018. Emerg Infect Dis *25*(11):2143–2145.
NIOSHTIC-2: **20058045**

Shoeb M, Mustafa GM, Joseph P, Umbright C, Kodali V, Roach KA, Meighan T, Roberts JR, Erdely A, Antonini JM [2019]. Initiation of pulmonary fibrosis after silica inhalation in rats is linked with dysfunctional shelterin complex and DNA damage response. Sci Rep *9*:471.
NIOSHTIC-2: **20054452** | NORA: Construction

Siegel DA, Jatlaoui TC, Koumans EH, Kiernan EA, Layer M, Cates JE, Kimball A, Weissman DN, Petersen EE, Reagan-Steiner S, Godfred-Cato S, Moulia D, Moritz E, Lehnert JD, Mitchko J, London J, Zaki SR, King BA, Jones CM, Patel A, Meaney-Delman D, Koppaka R, Lung Injury Response Clinical Working Group, Lung Injury Response Epidemiology/Surveillance Group [2019]. Update: interim guidance for health care providers evaluating and caring for patients with suspected e-cigarette, or vaping, product use associated lung injury—United States, October 2019. MMWR *68*(41):919–927.
NIOSHTIC-2: **20057454**

Siegel M, Rocheleau CM, Johnson CY, Waters MA, Lawson CC, Riehle-Colarusso T, Reefhuis J, The National Birth Defects Prevention Study [2019]. Maternal occupational oil mist exposure and birth defects, National Birth Defects Prevention Study, 1997–2011. Int J Environ Res Public Health *16*(9):1560.
NIOSHTIC-2: **20055976** | NORA: Manufacturing

Siegel PD, Law BF, Warshaw EM [2019]. Etiological contact allergen chemical identification and confirmation. Dermatitis: Epub ahead of print, 2019 August.
NIOSHTIC-2: **20057084**

Siegrist KJ, Reynolds SH, Porter DW, Mercer RR, Bauer AK, Lowry D, Cena L, Stueckle TA, Kashon ML, Wiley J, Salisbury JL, Mastovich J, Bunker K, Sparrow M, Lupoi JS, Stefaniak AB, Keane MJ, Tsuruoka S, Terrones M, McCawley M, Sargent LM [2019]. Mitsui-7, heat-treated, and nitrogen-doped multi-walled carbon nanotubes elicit genotoxicity in human lung epithelial cells. Part Fibre Toxicol *16*:36.
NIOSHTIC-2: **20057535** | NORA: Manufacturing

Sietsema M, Radonovich L, Hearl FJ, Fisher EM, Brosseau LM, Shaffer RE, Koonin LM [2019]. A control banding framework for protecting the U.S. workforce from aerosol transmissible infectious disease outbreaks with high public health consequences. Health Secur *17*(2):124–132.
NIOSHTIC-2: **20055469** | NORA: Healthcare and Social Assistance

Silver SR, Boiano JM [2019]. Differences in safety climate perception by health care worker, work schedule, and workplace characteristics. Am J Med Qual *34*(2):165–175.
NIOSHTIC-2: **20052450** | NORA: Services / Transportation, Warehousing and Utilities

Sisler JD, Mandler WK, Shaffer J, Lee T, McKinney WG, Battelli LA, Orandle MS, Thomas TA, Castranova VC, Qi C, Porter DW, Andrew ME, Fedan JS, Mercer RR, Qian Y [2019]. Toxicological assessment of dust from sanding micronized copper-treated lumber in vivo. J Hazard Mater *373*:630–639.
NIOSHTIC-2: **20055525**

Slaker BA, Murphy MM, Miller T [2019]. Analysis of extensometer, photogrammetry and laser scanning monitoring techniques for measuring floor heave in an underground limestone mine. Trans Soc Min Metall Explor *344*:31–37.
NIOSHTIC-2: **20056023** | NORA: Mining

Smith DL, Horn GP, Fernhall B, Kesler RM, Fent KW, Kerber S, Rowland TW [2019]. Electrocardiographic responses following live-fire firefighting drills. J Occup Environ Med *61*(12):1030–1035.
NIOSHTIC-2: **20058403**

Smith JP, Sammons D, Robertson S, Krieg E, Snawder J [2019]. Field evaluation of onsite near real-time monitors for surface contamination by 5-fluorouracil. J Oncol Pharm Pract *25*(5):1152–1159.
NIOSHTIC-2: **20051934** | NORA: Construction

Smith LC, Moreno S, Robinson S, Orandle M, Porter DW, Das D, Saleh NB, Sabo-Attwood T [2019]. Multi-walled carbon nanotubes inhibit estrogen receptor expression in vivo and in vitro through transforming growth factor beta1. NanoImpact *14*:100152.
NIOSHTIC-2: **20055349** | NORA: Manufacturing

Snyder-Talkington BN, Dong C, Castranova V, Qian Y, Guo NL [2019]. Differential gene regulation in human small airway epithelial cells grown in monoculture versus coculture with human microvascular endothelial cells following multiwalled carbon nanotube exposure. Toxicol Rep *6*:482–488.
NIOSHTIC-2: **20056148** | NORA: Manufacturing

Snyder-Talkington BN, Dong C, Singh S, Raese R, Qian Y, Porter DW, Wolfarth MG, Guo NL [2019]. Multi-walled carbon nanotube-induced gene expression biomarkers for medical and occupational surveillance. Int J Mol Sci *20*(11):2635.
NIOSHTIC-2: **20056388** | NORA: Manufacturing

Sosa LE, Njie GJ, Lobato MN, Bamrah Morris S, Buchta W, Casey ML, Goswami ND, Gruden MA, Hurst BJ, Khan AR, Kuhar DT, Lewinsohn DM, Mathew TA, Mazurek GH, Reves R, Paulos L, Thanassi W, Will L, Belknap R [2019]. Tuberculosis screening, testing, and treatment of U.S. health care personnel: recommendations from the National Tuberculosis Controllers Association and CDC, 2019. MMWR *68*(19):439–443.
NIOSHTIC-2: **20055854** | NORA: Healthcare and Social Assistance

Spector JT, Masuda YJ, Wolff NH, Calkins M, Seixas N [2019]. Heat exposure and occupational injuries: review of the literature and implications. Curr Environ Health Rep *6*(4):286–296.
NIOSHTIC-2: **20057440**

Stefaniak AB, Bowers LN, Knepp AK, Luxton TP, Peloquin DM, Baumann EJ, Ham JE, Wells JR, Johnson AR, LeBouf RF, Su FC, Martin SB Jr., Virji MA [2019]. Particle and vapor emissions from vat polymerization desktop-scale 3-dimensional printers. J Occup Environ Hyg *16*(8):519–531.
NIOSHTIC-2: **20055890** | NORA: Mining / Manufacturing / Services

Stefaniak AB, Johnson AR, du Preez S, Hammond DR, Wells JR, Ham JE, LeBouf RF, Martin SB Jr., Duling MG, Bowers LN, Knepp AK, de Beer DJ, du Plessis JL [2019]. Insights into emissions and exposures from use of industrial-scale additive manufacturing machines. Saf Health Work *10*(2):229–236.
NIOSHTIC-2: **20053918** | NORA: Services

Stefaniak AB, Johnson AR, du Preez S, Hammond DR, Wells JR, Ham JE, LeBouf RF, Menchaca KW, Martin SB Jr., Duling MG, Bowers LN, Knepp AK, Su FC, de Beer DJ, du Plessis JL [2019]. Evaluation of emissions and exposures at workplaces using desktop 3-dimensional printers. J Chem Health Saf *26*(2):19–30.
NIOSHTIC-2: **20056110** | NORA: Services

Stoyanovsky DA, Tyurina YY, Shrivastava I, Bahar I, Tyurin VA, Protchenko O, Jadhav S, Bolevich SB, Kozlov AV, Vladimirov YA, Shvedova AA, Philpott CC, Bayir H, Kagan VE [2019]. Iron catalysis of lipid peroxidation in ferroptosis: regulated enzymatic or random free radical reaction? Free Radic Biol Med *133*:153–161.
NIOSHTIC-2: **20053239** | NORA: Mining

Strickland J, Daniel AB, Allen D, Aguila C, Ahir S, Bancos S, Craig E, Germolec D, Ghosh C, Hudson NL, Jacobs A, Lehmann DM, Matheson J, Reinke EN, Sadrieh N, Vikmanovic S, Kleinstreuer N [2019]. Skin sensitization testing needs and data uses by U.S. regulatory and research agencies. Arch Toxicol *93*(2):273–291.
NIOSHTIC-2: **20053794**

Stueckle TA, White A, Wagner A, Gupta RK, Rojanasakul Y, Dinu CZ [2019]. Impacts of organomodified nanoclays and their incinerated byproducts on bronchial cell monolayer integrity. Chem Res Toxicol *32*(12):2445–2458.
NIOSHTIC-2: **20057960** | NORA: Manufacturing

Su C, Asfaw A, Tamers SL, Luckhaupt SE [2019]. Health insurance coverage among U.S. workers: differences by work arrangements in 2010 and 2015. Am J Prev Med *56*(5):673–679.
NIOSHTIC-2: **20055316**

Su C, de Perio MA, Cummings KJ, McCague AB, Luckhaupt SE, Sweeney MH [2019]. Case investigations of infectious diseases occurring in workplaces, United States, 2006–2015. Emerg Infect Dis *25*(3):397–405.
NIOSHTIC-2: **20054933** | NORA: Services

Su C, Syamlal G, Tamers S, Li J, Luckhaupt SE [2019]. Workplace secondhand tobacco smoke exposure among U.S. nonsmoking workers, 2015. MMWR *68*(27):604–607.
NIOSHTIC-2: **20056479**

Su DWH, Zhang P, Van Dyke M, Minoski T [2019]. Effect of longwall-induced subsurface deformations on shale gas well casing stability under deep covers. Int J Min Sci Technol *29*(1):3–8.
NIOSHTIC-2: **20054181** | NORA: Mining / Oil and Gas Extraction

Su FC, Friesen MC, Humann M, Stefaniak AB, Stanton ML, Liang X, LeBouf RF, Henneberger PK, Virji MA [2019]. Clustering asthma symptoms and cleaning and disinfecting activities and evaluating their associations among healthcare workers. Int J Hyg Environ Health *222*(5):873–883.
NIOSHTIC-2: **20055532** | NORA: Healthcare and Social Assistance

Sun K, Azman AS, Camargo HE, Dempsey PG [2019]. Risk assessment of recordable occupational hearing loss in the mining industry. Int J Audiol *58*(11):761–768.
NIOSHTIC-2: **20056580** | NORA: Mining

Sun K, Kardous CA, Shaw PB, Kim B, Mechling J, Azman AS [2019]. The potential use of a NIOSH sound level meter smart device application in mining operations. Noise Control Eng J *67*(1):23–30.
NIOSHTIC-2: **20054867**

Swanson LR, Bellanca JL [2019]. If the technology fits: an evaluation of mobile proximity detection systems in underground coal mines. Min Metall Explor *36*(4):633–645.
NIOSHTIC-2: **20056106**

Swanson LR, Bellanca JL, Helton J [2019]. Automated systems and trust: mineworkers' trust in proximity detection systems for mobile machines. Saf Health Work *10*(4):461–469.
NIOSHTIC-2: **20057901**

Syamlal G, Doney B, Mazurek JM [2019]. Chronic obstructive pulmonary disease prevalence among adults who have never smoked, by industry and occupation—United States, 2013–2017. MMWR *68*(13):303–307.
NIOSHTIC-2: **20055327**

Syamlal G, King BA, Mazurek JM [2019]. Workplace smoke-free policies and cessation programs among U.S. working adults. Am J Prev Med *56*(4):548–562.
NIOSHTIC-2: **20054721**

Syron LN, Bovbjerg VE, Mendez-Luck CA, Kincl LD [2019]. Safety and health programs in Alaska's seafood processing industry: interviews with safety and health managers. J Agromed *24*(4):449–461.
NIOSHTIC-2: **20056578** | NORA: Agriculture, Forestry and Fishing

Syron LN, Lucas DL, Bovbjerg VE, Kincl LD [2019]. Injury and illness among onshore workers in Alaska's seafood processing industry: analysis of workers' compensation claims, 2014–2015. Am J Ind Med *62*(3):253–264.
NIOSHTIC-2: **20054532** | NORA: Agriculture, Forestry and Fishing

Tamers SL, Chosewood LC, Childress A, Hudson H, Nigam J, Chang C-C [2019]. Total Worker Health® 2014–2018: the novel approach to worker safety, health, and well-being evolves. Int J Environ Res Public Health *16*(3):321.
NIOSHTIC-2: **20054539** | NORA: Manufacturing

Thapa N, Tomasi SE, Cox-Ganser JM, Nett RJ [2019]. Non-malignant respiratory disease among workers in the rubber manufacturing industry: a systematic review and meta-analysis. Am J Ind Med *62*(5):367–384.
NIOSHTIC-2: **20054827**

Themann CL, Kardous CA, Beamer BR, Morata TC [2019]. 'Internet of Ears' and hearables for hearing loss prevention. Hear J *72*(4):32–34.
NIOSHTIC-2: **20055690** | NORA: Manufacturing

Themann CL, Masterson EA [2019]. Occupational noise exposure: a review of its effects, epidemiology, and impact with recommendations for reducing its burden. J Acoust Soc Am *146*(5):3879–3905.
NIOSHTIC-2: **20058007**

Tiesman H [2019]. Traffic safety initiatives: drive to arrive alive. Police Chief *86*(8):18–19.
NIOSHTIC-2: **20057964** | NORA: Public Safety

Tiesman HM, Gwilliam M, Rojek J, Hendricks S, Montgomery B, Alpert G [2019]. The impact of a crash prevention program in a large law enforcement agency. Am J Ind Med *62*(10):847–858.
NIOSHTIC-2: **20056744** | NORA: Public Safety

Tiesman HM, Konda S, Cimineri L, Castillo DN [2019]. Drug overdose deaths at work, 2011–2016. Inj Prev *25*(6):577–580.
NIOSHTIC-2: **20055496**

Tomasi SE, Fechter-Leggett ED, Edwards NT, Reddish AD, Crosby AE, Nett RJ [2019]. Suicide among veterinarians in the United States from 1979 through 2015. J Am Vet Med Assoc *254*(1):104–112.
NIOSHTIC-2: **20054178**

Tsai R, Alterman T, Grosch JW, Luckhaupt SE [2019]. Availability of and participation in workplace health promotion programs by sociodemographic, occupation, and work organization characteristics in U.S. workers. Am J Health Promot *33*(7):1028–1038.
NIOSHTIC-2: **20055770**

Turner J, McCabe K, Snawder J, Hernandez M [2019]. (1 → 3) ß-Glucan induces multimodal toxicity responses in parallel exposures of model human lung epithelial cells and immature macrophage. Air Qual Atmos Health *12*(4):379–387.
NIOSHTIC-2: **20054148**

Tyurina YY, St. Croix CM, Watkins SC, Watson AM, Epperly MW, Anthonymuthu TS, Kisin ER, Vlasova II, Krysko O, Krysko DV, Kapralov AA, Dar HH, Tyurin VA, Amoscato AA, Popova EN, Bolevich SB, Timashev PS, Kellum JA, Wenzel SE, Mallampalli RK, Greenberger JS, Bayir H, Shvedova AA, Kagan VE [2019]. Redox (phospho)lipidomics of signaling in inflammation and programmed cell death. J Leukoc Biol *106*(1):57–81.
NIOSHTIC-2: **20055977** | NORA: Mining

Upaassana VT, Ghosh S, Chakraborty A, Birch ME, Joseph P, Han J, Ku BK, Ahn CH [2019]. Highly sensitive Lab on a Chip (LOC) immunoassay for early diagnosis of respiratory disease caused by respirable crystalline silica (RCS). Anal Chem *91*(10):6652–6660.
NIOSHTIC-2: **20056285** | NORA: Construction / Manufacturing

Venkat H, Briggs G, Brady S, Komatsu K, Hill C, Leung J, Patel M, Livar E, Su C, Kassem A, Sowers SB, Mercader S, Rota PA, Elson D, Timme E, Robinson S, Fitzpatrick K, Franco J, Hickman C, Gastañaduy PA [2019]. Measles outbreak at a privately operated detention facility: Arizona, 2016. Clin Infect Dis *68*(12):2018–2025.
NIOSHTIC-2: **20056282**

Victory KR, Braun CR, de Perio MA, Calvert GM, Alarcon W [2019]. Elevated blood lead levels in adults—Missouri, 2013. Am J Ind Med *62*(4):347–351.
NIOSHTIC-2: **20054748** | NORA: Manufacturing

Victory KR, Shugart J, Burrer S, Dowell CH, Delaney LJ [2019]. Insights into the National Institute for Occupational Safety and Health's Emergency Preparedness and Response Program. J Environ Health *82*(1):30–32.
NIOSHTIC-2: **20056849**

Violanti JM, Owens SL, McCanlies E, Fekedulegn D, Andrew ME [2019]. Law enforcement suicide: a review. Policing *42*(2):141–164.
NIOSHTIC-2: **20051615** | NORA: Public Safety

Virji MA, Liang X, Su FC, LeBouf RF, Stefaniak AB, Stanton ML, Henneberger PK, Houseman EA [2019]. Peaks, means, and determinants of real-time TVOC exposures associated with cleaning and disinfecting tasks in healthcare settings. Ann Work Expo Health *63*(7):759–772.
NIOSHTIC-2: **20056141** | NORA: Healthcare and Social Assistance / Manufacturing

Virji MA, Schuler CR, Cox-Ganser J, Stanton ML, Kent MS, Kreiss K, Stefaniak AB [2019]. Associations of metrics of peak inhalation exposure and skin exposure indices with beryllium sensitization at a beryllium manufacturing facility. Ann Work Expo Health *63*(8):856–869.
NIOSHTIC-2: **20057159** | NORA: Manufacturing

Vivoda JM, Pratt SG, Gillies SJ [2019]. The relationships among roadway safety management practices, collision rates, and injury rates within company fleets. Saf Sci *120*:589–602.
NIOSHTIC-2: **20056884**

Wall AT, Wagner CM, Rasband RD, Gee KL, Murphy WJ [2019]. Cumulative noise exposure model for outdoor shooting ranges. J Acoust Soc Am *146*(5):3863–3867.
NIOSHTIC-2: **20058018**

Wang C, De Roos AJ, Fujishiro K, Allison MA, Wallace R, Seguin RA, Nassir R, Michael YL [2019]. Occupational physical activity and coronary heart disease in Women's Health Initiative Observational Study. J Geront, Ser A Biol Sci Med Sci *74*(12):1952–1958.
NIOSHTIC-2: **20054196**

Wang K, Shi L, Linthicum W, Man K, He X, Wen Q, Rohanasakul LW, Rojanasakul Y, Yang Y [2019]. Substrate stiffness-dependent carbon nanotube-induced lung fibrogenesis. Nano Lett *19*(8):5443–5451.
NIOSHTIC-2: **20057022** | NORA: Manufacturing

Wang X, Hu YH, Lu M-L, Radwin RG [2019]. The accuracy of a 2D video-based lifting monitor. Ergonomics *62*(8):1043–1054.
NIOSHTIC-2: **20055843** | NORA: Manufacturing

Wheeler M [2019]. Bayesian additive adaptive basis tensor product models for modeling high dimensional surfaces: an application to high-throughput toxicity testing. Biometrics *75*(1):193–201.
NIOSHTIC-2: **20052445**

Whitehouse ER, Rao AK, Yu YC, Yu PA, Griffin M, Gorman S, Angel KA, McDonald EC, Manlutac AL, de Perio MA, McCollum AM, Davidson W, Wilkins K, Ortega E, Satheshkumar PS, Townsend MB, Isakari M, Petersen BW [2019]. Novel treatment of a *vaccinia* virus infection from an occupational needlestick—San Diego, California, 2019. MMWR *68*(42):943–946.
NIOSHTIC-2: **20057574**

Whitson A, Kocher L [2019]. When work boots wear out. Pit Quarry *111*(8):104,106,108–109.
NIOSHTIC-2: **20055582** | NORA: Mining

Witte TK, Spitzer EG, Edwards N, Fowler KA, Nett RJ [2019]. Suicides and deaths of undetermined intent among veterinary professionals from 2003 through 2014. J Am Vet Med Assoc *255*(5):595–608.
NIOSHTIC-2: **20056899**

Wong IS, Popkin S, Folkard S [2019]. Working Time Society consensus statements: a multi-level approach to managing occupational sleep-related fatigue. Ind Health *57*(2):228–244.
NIOSHTIC-2: **20057091** | NORA: Oil and Gas Extraction / Transportation, Warehousing and Utilities

Wu B, Varner K, Dahm MM, Reutman S, Davis KG [2019]. Work-related injuries within a large urban public school system in the Mid-Western United States. Work *62*(3):373–382.
NIOSHTIC-2: **20055214**

Wu JZ, Pan CS, Wimer BM [2019]. Evaluation of the shock absorption performance of construction helmets under repeated top impacts. Eng Fail Anal *96*:330–339.
NIOSHTIC-2: **20053453** | NORA: Construction / Manufacturing

Wu JZ, Sinsel EW, Carey RE, Zheng L, Warren CM, Breloff SP [2019]. Biomechanical modeling of deep squatting: effects of the interface contact between posterior thigh and shank. J Biomech *96*:109333.
NIOSHTIC-2: **20057342** | NORA: Construction

Xu SS, Lei Z, Zhuang Z, Bergman M [2019]. Numerical simulations of exhaled particles from wearers of powered air purifying respirators. J Int Soc Respir Prot *36*(2):66–76.
NIOSHTIC-2: **20058374**

Xu XS, Welcome DE, Warren CM, McDowell TW, Dong RG [2019]. Development of a finger adapter method for testing and evaluating vibration-reducing gloves and materials. Meas *137*:362–374.
NIOSHTIC-2: **20054680** | NORA: Construction / Manufacturing

Yan L, Yantek D [2019]. Portable refuge alternatives temperature and humidity tests. Trans Soc Min Metall Explor *344*:184–190.
NIOSHTIC-2: **20055448** | NORA: Mining

Yan L, Yantek DS, Reyes MA [2019]. Underground mine air and strata temperature change due to the use of refuge alternatives. Min Metall Explor: Epub ahead of print, 2019 November.
NIOSHTIC-2: **20057961** | NORA: Mining

Yanamala N, Desai IC, Miller W, Kodali VK, Syamlal G, Roberts JR, Erdely AD [2019]. Grouping of carbonaceous nanomaterials based on association of patterns of inflammatory markers in BAL fluid with adverse outcomes in lungs. Nanotoxicology *13*(8):1102–1116.
NIOSHTIC-2: **20056576** | NORA: Manufacturing

Yantek DS, Homce GT, Yan L, Lutz TJ, Srednicki JR, Yonkey JA [2019]. Heat/humidity tests of a built-in-place refuge alternative using simulated miners. Trans Soc Min Metall Explor *344*:7–14.
NIOSHTIC-2: **20055461** | NORA: Mining

Yantek DS, Yan L, Damiano NW, Reyes MA, Srednicki JR [2019]. A test method for evaluating the thermal environment of underground coal mine refuge alternatives. Int J Min Sci Technol *29*(3):343–355.
NIOSHTIC-2: **20054632** | NORA: Mining

Yeoman K, DuBose W, Bauerle T, Victoroff T, Finley S, Poplin G [2019]. Patterns of heat strain among a sample of U.S. underground miners. J Occup Environ Med *61*(3):212–218.
NIOSHTIC-2: **20054225** | NORA: Mining

Yi J, Duling MG, Bowers LN, Knepp AK, LeBouf RF, Nurkiewicz TR, Ranpara A, Luxton T, Martin SB Jr., Burns DA, Peloquin DM, Baumann EJ, Virji MA, Stefaniak AB [2019]. Particle and organic vapor emissions from children's 3-D pen and 3-D printer toys. Inhal Toxicol *31*(13–14):432–445.
NIOSHTIC-2: **20058223** | NORA: Services

Yokel RA, Hancock ML, Grulke EA, Unrine JM, Dozier AK, Graham UM [2019]. Carboxylic acids accelerate acidic environment-mediated nanoceria dissolution. Nanotoxicology *13*(4):455–475.
NIOSHTIC-2: **20054781** | NORA: Oil and Gas Extraction

Yorio PL, Edwards J, Hoeneveld D [2019]. Safety culture across cultures. Saf Sci *120*:402–410.
NIOSHTIC-2: **20056747**

Yorio PL, Rottach DR, Dubaniewicz M [2019]. Quality assurance sampling plans in U.S. stockpiles for personal protective equipment. Health Secur *17*(2):140–151.
NIOSHTIC-2: **20055765** | NORA: Healthcare and Social Assistance / Public Safety

Yu JJ, Hogan T, Morley C, Crigger C, Jiao S, Williams DJ, Salkini MW, Yang X, Liang X, Yan B, Cecil C, Winn AC, Zheng J, Guo Y, Jiang B-H, Washington IM [2019]. Adverse effects profile of dicycloplatin (DCP) offers chemotherapeutic advantage over cisplatin and carboplatin. Anticancer Res *39*(8):4455–4462.
NIOSHTIC-2: **20056978**

Yue X, Black C, Ball S, Donahue S, de Perio MA, Laney AS, Greby S [2019]. Workplace interventions and vaccination-related attitudes associated with influenza vaccination coverage among healthcare personnel working in long-term care facilities, 2015–2016 influenza season. J Am Med Dir Assoc *20*(6):718–724.
NIOSHTIC-2: **20054788** | NORA: Services

Yung M, Dale AM, Kapellusch J, Bao S, Harris-Adamson C, Meyers AR, Hegmann KT, Rempel D, Evanoff BA [2019]. Modeling the effect of the 2018 revised ACGIH® Hand Activity Threshold Limit Value® (TLV) at reducing risk for carpal tunnel syndrome. J Occup Environ Hyg *16*(9):628–633.
NIOSHTIC-2: **20056857**

Zhang P, Gearhart D, Van Dyke M, Su D, Esterhuizen E, Tulu B [2019]. Ground response to high horizontal stresses during longwall retreat and its implications for longwall headgate support. Int J Min Sci Technol *29*(1):27–33.
NIOSHTIC-2: **20054057** | NORA: Mining

Zhang P, Su D, Lu J [2019]. Evaluating the stability of shale gas wells in longwall barrier pillars. Coal Age *124*(8):34–38.
NIOSHTIC-2: **20057816** | NORA: Mining / Oil and Gas Extraction

Zheng L, Kulkarni P [2019]. Real-time measurement of airborne carbon nanotubes in workplace atmospheres. Anal Chem *91*(20):12713–12723.
NIOSHTIC-2: **20057540** | NORA: Oil and Gas Extraction / Manufacturing

Zheng Y, Reed WR, Potts JD, Li M, Rider JP [2019]. Dust control by air-blocking shelves and dust collector-to-bailing airflow ratios for a surface mine drill shroud. Trans Soc Min Metall Explor *344*:120–125.
NIOSHTIC-2: **20055442** | NORA: Mining

Zheng Y, Reed WR, Shahan MR, Rider JP [2019]. Evaluation of roof bolter canopy air curtain effects on airflow and dust dispersion in an entry using blowing curtain ventilation. Min Metall Explor *36*(6):1115–1126.
NIOSHTIC-2: **20056108** | NORA: Mining

Zhou C, Li J, Damiano N, Carr J, Noll J [2019]. Influence of trailing cables on magnetic proximity detection systems. Min Metall Explor *36*(2):277–284.
NIOSHTIC-2: **20056093**

Zhu J, He X, Bergman MS, Guffey S, Nimbarte AD, Zhuang Z [2019]. A pilot study of minimum operational flow for loose-fitting powered air-purifying respirators used in healthcare cleaning services. J Occup Environ Hyg *16*(7):440–445.
NIOSHTIC-2: **20055823** | NORA: Healthcare and Social Assistance

Books or Book Chapters

Caruso CC [2019]. Workplace strategies to reduce risks from shift work, long work hours, and related fatigue issues. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. 247–262.
NIOSHTIC-2: **20056841** | NORA: Public Safety

Grosch JW, Hecker S, Scott K, Scholl JC [2019]. Productive aging and work. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. 229–246.
NIOSHTIC-2: **20056826**

He Z, Panos J, Raymick J, Konak T, Cui L, Miller DB, O'Callaghan JP, Liachenko S, Paule MG, Imam SZ [2019]. A method for sampling rat cerebrospinal fluid with minimal blood contamination: a critical tool for biomarker studies. In: Aschner M, Costa L, eds. Cell Culture Techniques, Neuromethods. 2nd ed. New York: Humana Press 145:233–243.
NIOSHTIC-2: **20055943** | NORA: Manufacturing

Howard J [2019]. Foreword. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. xv–xvi.
NIOSHTIC-2: **20057116**

Hudson HL, Nigam JAS [2019]. Future directions and opportunities for Total Worker Health®. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. 295–309.
NIOSHTIC-2: **20056842** | NORA: Manufacturing

Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J [2019]. Introduction. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. 3–8.
NIOSHTIC-2: **20056836** | NORA: Manufacturing

Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J [2019]. Total worker health. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. 1–326.
NIOSHTIC-2: **20056835** | NORA: Manufacturing

Jensen AA, Bertke SJ, Calaf GM, Colosio C, Fritz JM, Fukushima S, Gwinn WM, Hemminki K, Kogevinas M, Kolstad H, Kriebel D, Mráz J, Nesnow S, Nylander-French L, Parent M-E, Phillips DH, Sandy M, Sim M, Smith-Roe SL, Stoner G, Suzuki T, Teixeira JP, Vodicka P [2019]. Styrene, styrene-7,8-oxide, and quinoline. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon, France: International Agency for Research on Cancer 121:1–345.
NIOSHTIC-2: **20057390**

Michalovicz LT, O'Callaghan JP [2019]. Glial reactivity in response to neurotoxins: relevance and methods. In: Aschner M, Costa L, eds. Cell Culture Techniques, Neuromethods. 2nd ed. New York: Humana Press 145:51–67.
NIOSHTIC-2: **20055940** | NORA: Manufacturing

Schill AL, Chosewood LC, Howard J [2019]. The NIOSH Total Worker Health® vision. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. 29–45.
NIOSHTIC-2: **20056838**

Scholl JC, Ortiz B, Grosch JW, Kaur H [2019]. Advancing age-friendly workplaces through the NIOSH National Center for Productive Aging and Work. In: Gatchel RJ, Schultz IZ, Ray CT, eds. Handbook of rehabilitation in older adults. Handbooks in Health, Work and Disability series. Cham, Switzerland: Springer, pp. 63–83.
NIOSHTIC-2: **20056831**

Schulte PA, Pandalai SP [2019]. Interrelationships of occupational and personal risk factors in the etiology of disease and injury. In: Hudson HL, Nigam JAS, Sauter SL, Chosewood LC, Schill AL, Howard J, eds. Total worker health. Washington, DC: American Psychological Association, pp. 47–60.
NIOSHTIC-2: **20056840**

NIOSH Numbered Products

NIOSH [2019]. NIOSH training for nurses on shift work and long work hours. By Caruso CC, Geiger-Brown J, Takahashi M, Trinkoff A, Nakata A. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-115 (revised 10/2019).
NIOSHTIC-2: **20057501** | NORA: Healthcare and Social Assistance / Transportation, Warehousing and Utilities

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Georgia edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-127 (revised 07/2019).
NIOSHTIC-2: **20058033** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Indiana edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-128 (revised 07/2019).
NIOSHTIC-2: **20058035** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Iowa edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-133 (revised 07/2019).
NIOSHTIC-2: **20058036** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Kansas edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-134 (revised 07/2019).
NIOSHTIC-2: **20058037** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Idaho edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-137 (revised 07/2019).
NIOSHTIC-2: **20058034** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Missouri edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-144 (revised 07/2019).
NIOSHTIC-2: **20058040** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Nebraska edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-145 (revised 07/2019).
NIOSHTIC-2: **20058043** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Nevada edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-146 (revised 07/2019).
NIOSHTIC-2: **20058046** | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, New Hampshire edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-147 (revised 07/2019).
NIOSHTIC-2: 20058076 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, New Mexico edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-149 (revised 07/2019).
NIOSHTIC-2: 20058077 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, North Carolina edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-150 (revised 07/2019).
NIOSHTIC-2: 20058078 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, North Dakota edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-151 (revised 07/2019).
NIOSHTIC-2: 20058079 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Pennsylvania edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-154 (revised 07/2019).
NIOSHTIC-2: 20058080 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, South Carolina edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-155 (revised 07/2019).
NIOSHTIC-2: 20058081 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, South Dakota edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-156 (revised 07/2019).
NIOSHTIC-2: 20058083 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Tennessee edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-157 (revised 07/2019).
NIOSHTIC-2: 20058084 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Utah edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-159 (revised 07/2019).
NIOSHTIC-2: 20058085 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Virginia edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-161 (revised 07/2019).
NIOSHTIC-2: 20058086 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Wisconsin edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-164 (revised 07/2019).
NIOSHTIC-2: 20058087 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Mississippi edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-166 (revised 07/2019).
NIOSHTIC-2: 20058038 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Montana edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-167 (revised 07/2019).
NIOSHTIC-2: 20058041 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, Puerto Rico edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-170 (revised 07/2019).
NIOSHTIC-2: 20058088 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Youth@Work—talking safety: a safety & health curriculum for young workers, U.S. Virgin Islands edition (revised 07/2019). By Guerin RJ, Okun AH, Stephenson CM, Bush D, Dewey R, Szudy B, Miara C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2015-171 (revised 07/2019).
NIOSHTIC-2: 20058090 | NORA: Services / Wholesale and Retail Trade

NIOSH [2019]. Preventing cold-related illness, injury, and death among workers. Workplace Solutions. By Jacklitsch B, Ceballos D. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-113.
NIOSHTIC-2: 20057316

NIOSH [2019]. Continuing to protect the nanotechnology workforce: NIOSH nanotechnology research plan for 2018–2025. By Hodson L, Geraci C, Schulte P. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-116.
NIOSHTIC-2: 20054395 | NORA: Manufacturing

NIOSH [2019]. NIOSH skin notation profile: atrazine. Skin Notation Profile. By Hudson NL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-117.
NIOSHTIC-2: 20054228

NIOSH [2019]. NIOSH skin notation profile: catechol. Skin Notation Profile. By Hudson NL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-118.
NIOSHTIC-2: 20054232

NIOSH [2019]. NIOSH skin notation profile: chlorinated camphene. Skin Notation Profile. By Hudson NL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-119.
NIOSHTIC-2: 20054229

NIOSH [2019]. NIOSH skin notation profile: pentachlorophenol (PCP). Skin Notation Profile. By Hudson NL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-120.
NIOSHTIC-2: 20054230

NIOSH [2019]. NIOSH skin notation profile: sodium fluoroacetate. Skin Notation Profile. By Hudson NL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-121.
NIOSHTIC-2: 20054231

NIOSH [2019]. Dust control handbook for industrial minerals mining and processing. 2nd ed. Report of Investigations. By Cecala AB, O'Brien AD, Schall J, Colinet JF, Franta RJ, Schultz MJ, Haas EJ, Robinson JE, Patts J, Holen BM, Stein R, Weber J, Strebel M, Wilson L, Ellis M. Pittsburgh, PA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-124.
NIOSHTIC-2: 20055113 | NORA: Mining

NIOSH [2019]. NIOSH bibliography of communication and research products 2018. By Blank A, Fendinger S, Hornback D, Lechliter J. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-125.
NIOSHTIC-2: 20055579

NIOSH [2019]. Illicit drugs, including fentanyl: preventing occupational exposure to emergency responders. Video. By Hornsby-Myers J, Headley T, Dowell C. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-126.
NIOSHTIC-2: 20055225

NIOSH [2019]. Responding to a suspected opioid overdose. Fact Sheet. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-127.
NIOSHTIC-2: 20055207

NIOSH [2019]. Responding to a suspected opioid overdose. Fact Sheet. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-127 (revised 04/2019).
NIOSHTIC-2: 20055341

NIOSH [2019]. Prevent construction falls from roofs, ladders, and scaffolds. Fact Sheet. By Romano N, Webb S, Moore M, Lincoln J. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-128.
NIOSHTIC-2: 20055410

NIOSH [2019]. Prevent construction falls from roofs, ladders, and scaffolds. Fact Sheet. By Romano N, Webb S, Moore M, Lincoln J. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-128 (revised 11/2019).
NIOSHTIC-2: 20057837

NIOSH [2019]. Prevent construction falls from roofs, ladders, and scaffolds. Fact Sheet. By Romano N, Webb S, Moore M, Lincoln J. Morgantown, WV: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-128 (Updated 05/2019).
NIOSHTIC-2: 20055809

NIOSH [2019]. DRIFT software 2.0. By Kuchta M, Iverson S, Hustrulid W. Spokane, WA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-129.
NIOSHTIC-2: **20056750** | NORA: Mining

NIOSH [2019]. NIOSH Coal Workers' Health Surveillance Program. Fact Sheet. By Martin M, Halldin C, Wolfe A. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-130.
NIOSHTIC-2: **20055528** | NORA: Mining

NIOSH [2019]. Preventing occupational exposure to *Legionella*. Workplace Solutions. By Burton N, Afanuh S. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-131.
NIOSHTIC-2: **20057317**

NIOSH [2019]. Technical report: the NIOSH occupational exposure banding process for chemical risk management. By Lentz TJ, Seaton M, Rane P, Gilbert SJ, McKernan LT, Whittaker C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-132.
NIOSHTIC-2: **20056369**

NIOSH [2019]. Medication-assisted treatment for opioid use disorder. Workplace Solutions. By Howard J, Cimineri L, Evans T, Chosewood LC, Afanuh S. Washington, DC: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-133.
NIOSHTIC-2: **20055929** | NORA: Construction / Manufacturing

NIOSH [2019]. Health Effects Laboratory Division. Fact Sheet. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-134.
NIOSHTIC-2: **20055968**

NIOSH [2019]. Division of Science Integration (DSI). Fact Sheet. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-135.
NIOSHTIC-2: **20055970**

NIOSH [2019]. Division of Field Studies and Engineering (DFSE). Fact Sheet. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-136.
NIOSHTIC-2: **20055969**

NIOSH [2019]. NIOSH Advanced Manufacturing Initiative. Program Performance One-Pagers. By Geraci C, Novicki E, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-137.
NIOSHTIC-2: **20055931**

NIOSH [2019]. NIOSH Immune, Infectious and Dermal Disease Prevention Program. Program Performance One-Pagers. By Anderson S, Beezhold D, Frasch F, Novicki E, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-138.
NIOSHTIC-2: **20056063**

NIOSH [2019]. NIOSH Center for Motor Vehicle Safety. Program Performance One-Pagers. By Pratt S, Olsavsky R, Rodriguez R, Retzer K, Novicki E, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-139.
NIOSHTIC-2: **20056065** | NORA: Oil and Gas Extraction

NIOSH [2019]. NIOSH Personal Protective Technology Program. Program Performance One-Pagers. By D'Alessandro M, Williams WJ, Duling M, Novicki E, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-140.
NIOSHTIC-2: **20056066**

NIOSH [2019]. NIOSH Oil and Gas Extraction Program. Program Performance One-Pagers. By Hill R, Caruso D, Moller K, Novicki E, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-141.
NIOSHTIC-2: **20056067** | NORA: Oil and Gas Extraction

NIOSH [2019]. NIOSH Manufacturing Program. Program Performance One-Pagers. By Morata T, Meyers A, Meadows J, Felknor S, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-142.
NIOSHTIC-2: **20056295** | NORA: Manufacturing

NIOSH [2019]. NIOSH Respiratory Health Program. Program Performance One-Pagers. By Weissman D, Cox-Ganser J, Henneberger P, Mischler S, Martin M, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-143.
NIOSHTIC-2: **20056525**

NIOSH [2019]. NIOSH Healthcare and Social Assistance Program. Program Performance One-Pagers. By Casey M, Boiano J, Weissman D, Nett R, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-144.
NIOSHTIC-2: **20056298** | NORA: NORA Implementation

NIOSH [2019]. NIOSH Traumatic Injury Prevention Program. Program Performance One-Pagers. By Castillo D, Schuler C, Webb S, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-145.
NIOSHTIC-2: **20056526**

NIOSH [2019]. NIOSH Traumatic Injury Prevention Program. Program Performance One-Pagers. By Castillo D, Schuler C, Webb S, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-145 (revised 10/2019).
NIOSHTIC-2: **20057585**

NIOSH [2019]. NIOSH Engineering Controls Program. Program Performance One-Pagers. By Schnorr T, Hammond D, Hirst D, Martin SB Jr., McCleery T, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-146.
NIOSHTIC-2: **20056527**

NIOSH [2019]. Nanotechnology Research Center. Program Performance One-Pagers. By Hodson L, Geraci C, Schulte P, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-147.
NIOSHTIC-2: **20056812** | NORA: Manufacturing

NIOSH [2019]. NIOSH Hearing Loss Prevention Program. Program Performance One-Pagers. By Murphy W, Azman A, Masterson E, Matetic RJ, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-148.
NIOSHTIC-2: **20056296** | NORA: Mining

NIOSH [2019]. NIOSH Emergency Preparedness Response Program. Program Performance One-Pagers. By Dowell C, Sarmiento Rodriguez L, Delaney L, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-149.
NIOSHTIC-2: **20056815**

NIOSH [2019]. NIOSH Small Business Assistance Program. Program Performance One-Pagers. By Schulte P, Jacklitch B, Burnett G, Cunningham T, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-150.
NIOSHTIC-2: **20056564**

NIOSH [2019]. NIOSH Construction Program. Program Performance One-Pagers. By Branche C, Earnest GS, Garza E, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-151.
NIOSHTIC-2: **20056565**

NIOSH [2019]. CPWR Center for Construction Research and Training, National Construction Center. Program Performance One-Pagers. By Betit E, Cain CT, Rinehart R, Earnest GS, Garza E, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-152.
NIOSHTIC-2: **20056566**

NIOSH [2019]. NIOSH Safe • Skilled • Ready Workforce Program. Program Performance One-Pagers. By Schulte P, Guerin R, Baker D, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-153.
NIOSHTIC-2: **20056567**

NIOSH [2019]. NIOSH Safe • Skilled • Ready Workforce Program. Program Performance One-Pagers. By Schulte P, Guerin R, Baker D, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-153 (revised 10/2019).
NIOSHTIC-2: **20057586**

NIOSH [2019]. NIOSH Transportation, Warehousing and Utilities Program. Program Performance One-Pagers. By Castillo D, Sieber WK, Lincoln JE, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-154.
NIOSHTIC-2: **20056528** | NORA: Transportation, Warehousing and Utilities

NIOSH [2019]. Using Total Worker Health® concepts to address hearing health. Workplace Solutions. By Themann CL, Morata T, Afanuh S. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-155.
NIOSHTIC-2: **20057318** | NORA: Construction / Manufacturing

NIOSH [2019]. Illicit drugs, including fentanyl: preventing occupational exposure to emergency responders-using personal protective equipment. Video. By Dowell CH, Hornsby-Myers J, Headley T. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-156.
NIOSHTIC-2: **20055714**

NIOSH [2019]. Health Hazard Evaluation Program. Program Performance One-Pagers. By Schnorr T, Trout D, McCleery R, Powers A, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-157.
NIOSHTIC-2: **20056816**

NIOSH [2019]. NIOSH Wholesale and Retail Trade Program. Program Performance One-Pagers. By Schulte P, Hornback D, Eastlake A, Pfirman D, Bhattacharya A, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-158.
NIOSHTIC-2: **20057053** | NORA: Wholesale and Retail Trade

NIOSH [2019]. Center for Workers' Compensation Studies. Program Performance One-Pagers. By Wurzelbacher S, Meyers A, Tseng Cy, Moore L, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-159.
NIOSHTIC-2: **20056817**

NIOSH [2019]. NIOSH Surveillance Program. Program Performance One-Pagers. By Schnorr T, Sweeney M, Luckhaupt S, Mobley A, Filios P, Myers J, Reichard A, Hale C, McWilliams L, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-160.
NIOSHTIC-2: **20057054**

NIOSH [2019]. National Center for Productive Aging and Work. Program Performance One-Pagers. By Ortiz B, Grosch J, Harpriya K, Scholl J, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-161.
NIOSHTIC-2: **20056818**

NIOSH [2019]. Center for Occupational Robotics Research. Program Performance One-Pagers. By Castillo D, Hsiao H, Choi HS, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-162.
NIOSHTIC-2: **20056820**

NIOSH [2019]. Fishing safety success story: man, this could be it. Video. By Teske TD. Spokane, WA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-163.
NIOSHTIC-2: **20057115** | NORA: Agriculture, Forestry and Fishing

NIOSH [2019]. Fishing safety success story: the more you wear it, the better off you are. Video. By Teske TD. Spokane, WA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-164.
NIOSHTIC-2: **20057114** | NORA: Agriculture, Forestry and Fishing

NIOSH [2019]. Small business international travel resource. By Van Bogaert D, Kitt M, Yeoman K, Chosewood C, Gibbins J, Nickels L, Piacentino J, Novakovich J. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-165.
NIOSHTIC-2: **20056935**

NIOSH [2019]. NIOSH Center for Motor Vehicle Safety Evaluation of Strategic Plan for Research and Prevention, 2014–2018. By Fosbroke D, Olsavsky R, Pratt S, Rodriguez-Acosta R, Retzer K. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-166.
NIOSHTIC-2: 20057072

NIOSH [2019]. A story of impact: popular firefighting news forum develops training poster based on NIOSH fire fighter fatality investigation report. Impact Sheet. By Miles S, Wilson KJ, Webb S. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-167.
NIOSHTIC-2: 20057113 | NORA: Public Safety

NIOSH [2019]. NIOSH Occupational Health Equity Program. Program Performance One-Pagers. By Flynn M, Schulte P, Steege A, Siordia C, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-168.
NIOSHTIC-2: 20057055

NIOSH [2019]. NIOSH Public Safety Program. Program Performance One-Pagers. By D'Alessandro M, Moore S, Marsh S, Butler C, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-169.
NIOSHTIC-2: 20057254

NIOSH [2019]. NIOSH Cancer, Reproductive, Cardiovascular and Other Chronic Disease Prevention Program. Program Performance One-Pagers. By Schnorr T, Whelan E, Stueckle T, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-170.
NIOSHTIC-2: 20057255

NIOSH [2019]. NIOSH Healthy Work Design and Well-Being Program. Program Performance One-Pagers. By Streit J, Swanson N, Chosewood C, Pana-Cryan R, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-171.
NIOSHTIC-2: 20057056

NIOSH [2019]. NIOSH Mining Program. Program Performance One-Pagers. By Randolph R, Matetic RJ, Smith A, Drake P, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-172.
NIOSHTIC-2: 20057257

NIOSH [2019]. NIOSH Musculoskeletal Health Program. Program Performance One-Pagers. By Lu M-L, Ramsey J, McDowell T, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-173.
NIOSHTIC-2: 20057258

NIOSH [2019]. A guide to atmosphere-supplying respirators. Fact Sheet. By Cichowicz J, Coffey C, Fries M. Pittsburgh, PA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-174.
NIOSHTIC-2: 20057020

NIOSH [2019]. NIOSH Authoritative Recommendations Program. Program Performance One-Pagers. By Schulte PA, Lentz TJ, Whittaker C, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-175.
NIOSHTIC-2: 20057259

NIOSH [2019]. NIOSH Center for Maritime Safety and Health Studies. Program Performance One-Pagers. By Lincoln JM, Shumate A, Elliott KC, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-176.
NIOSHTIC-2: 20057260

NIOSH [2019]. NIOSH Services Program. Program Performance One-Pagers. By Schulte PA, Cunningham T, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-177.
NIOSHTIC-2: 20057261

NIOSH [2019]. NIOSH fast facts: taxi drivers—how to prevent robbery and violence. By Menendez CC, Dalsey EJ. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2020-100.
NIOSHTIC-2: 20057443 | NORA: Transportation, Warehousing and Utilities

NIOSH [2019]. NIOSH fast facts: taxi drivers—how to prevent robbery and violence. By Menendez CC, Dalsey EJ. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2020-100 (revised 11/2019).
NIOSHTIC-2: **20057862** | NORA: Transportation, Warehousing and Utilities

NIOSH [2019]. NIOSH Agriculture, Forestry, and Fishing Program. Program Performance One-Pagers. By Husberg B, Check P, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2020-101.
NIOSHTIC-2: **20057693**

NIOSH [2019]. Proceedings of the 2018 Ergo-X Symposium: exoskeletons in the workplace—assessing safety, usability, and productivity. Lowe B, Billotte W, Brogmus G, McDowell T, Reid C, Rempel D, Srinivasan D, eds. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2020-102.
NIOSHTIC-2: **20057456** | NORA: Construction / Manufacturing

NIOSH [2019]. NIOSH Prevention through Design Program. Program Performance One-Pagers. By Bach J, Reeves K. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2020-105.
NIOSHTIC-2: **20057824** | NORA: Construction / Manufacturing

NIOSH [2019]. Firefighter SCBA facepiece sizing issues. PPE CASE Notes. By Gavel K, Powers J, Fries M. Pittsburgh, PA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2020-107.
NIOSHTIC-2: **20058050** | NORA: Healthcare and Social Assistance / Public Safety

NIOSH [2019]. NIOSH extramural research and training program: annual report of fiscal year 2018. By Robison WA, Williams DF, Grandillo P. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2020-108.
NIOSHTIC-2: **20058137**

Proceedings

Allison P, Tiesman HM, Bernzweig D, Butler CR, James L, James S, Kumagai J, Patterson PD [2019]. Working hours and fatigue in the public safety sector. Working Hours, Sleep, & Fatigue Forum: Meeting the Needs of American Workers and Employers, September 13–14, 2019, Coeur d'Alene, Idaho. Cincinnati, OH: National Institute for Occupational Safety and Health, pp. 1–6.
NIOSHTIC-2: **20058412** | NORA: Public Safety

Azman A, Kim B [2019]. Practical use of area noise measurements in stone, sand, and gravel (SSG) mines. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Madrid: Spanish Acoustical Society (SEA), p. 1358.
NIOSHTIC-2: **20057367** | NORA: Mining

Azman A, Kim B [2019]. Practical use of area noise measurements in stone, sand, and gravel (SSG) mines. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Reston, VA: Institute of Noise Control Engineering, pp. 1348–1360.
NIOSHTIC-2: **20058417** | NORA: Mining

Bahrami D, Yuan L, Rowland JH, Zhou L, Thomas RA [2019]. Evaluation of post-blast re-entry times based on gas monitoring of return air. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 258–264.
NIOSHTIC-2: **20057558** | NORA: Mining

Barim MS, Lu M-L, Feng S, Hughes G, Hayden M, Werren D [2019]. Accuracy of an algorithm using motion data of five wearable IMU sensors for estimating lifting duration and lifting risk factors. Hum Fac Erg Soc P *63*(1):1105–1111.
NIOSHTIC-2: **20058255** | NORA: Manufacturing

Batchler TJ, Klemetti TM, Matthews T [2019]. Behavior of full-scale welded-wire screen for large mine roof skin falls. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 157–164.
NIOSHTIC-2: **20057563** | NORA: Mining

Beamer B, DiFrancesco J [2019]. Field comparison of gas-powered vs. battery-powered equipment for grounds maintenance—hedge trimming operations. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Madrid: Spanish Acoustical Society (SEA), p. 1474.
NIOSHTIC-2: **20058383**

Beamer B, DiFrancesco J [2019]. Field comparison of gas-powered vs. battery-powered equipment for grounds maintenance—hedge trimming operations. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Reston, VA: Institute of Noise Control Engineering, pp. 2318–2326.
NIOSHTIC-2: **20058418**

Bellanca JL, Eiter B, Hrica J, Weston R, Weston T [2019]. Risk perception with and without workers present in hazard recognition images. In: Cassenti DN, ed. Advances in human factors and simulation: proceedings of the AHFE 2019 International Conferences on Human Factors and Simulation, July 24–28, 2019, Washington, DC. Cham, Switzerland: Springer Verlag, pp. 261–273.
NIOSHTIC-2: **20056339** | NORA: Mining

Bellanca JL, Orr TJ, Helfrich WJ, Macdonald B, Navoyski J, Demich B [2019]. Developing a virtual reality environment for mining research. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 41–46.
NIOSHTIC-2: **20057562**

Bellanca JL, Orr TJ, Helfrich WJ, Madconald B, Navoyski J, Demich B [2019]. Developing a virtual reality environment for mining research. Preprint 19-008. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 6 pages.
NIOSHTIC-2: **20055610**

Bellanca JL, Swanson LR, Helton J, McNinch M [2019]. Mineworkers' perceptions of mobile proximity detection systems. Preprint 19-056. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 6 pages.
NIOSHTIC-2: **20055607**

Bellanca JL, Swanson LR, Helton J, McNinch M [2019]. Mineworkers' perceptions of mobile proximity detection systems. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 300–305.
NIOSHTIC-2: **20057544**

Berry C, Warren S, Hanson D [2019]. Investigating the correlation between coal geochemistry and coal bumps. In: Klemetti T, Mishra B, Lawson H, Murphy M, Perry K, eds. Proceedings of the 38th International Conference on Ground Control in Mining (ICGCM 2019), July 23–25, 2019, Morgantown, West Virginia. Englewood, CO: Society for Mining, Metallurgy & Exploration (SME), pp. 171–177.
NIOSHTIC-2: **20056942** | NORA: Mining

Bickson J, Yantek DS, Srednicki JR, Reyes MA [2019]. Effect of ventilation system configuration on purging of harmful gases in a built-in-place refuge alternative with a borehole air supply. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 312–316.
NIOSHTIC-2: **20057560** | NORA: Mining

Bugarski AD, Hummer JA, Robb GM [2019]. Diesel and welding aerosols in an underground mine. Proceedings of the 17th North American Mine Ventilation Symposium (NAMVS 2019), April 28—May 1, 2019, Montréal, Canada. Montréal: Canadian Institute of Mining, Metallurgy and Petroleum, pp. 84–94.
NIOSHTIC-2: **20056024** | NORA: Mining

Camargo H, Peterson S, Kim B, Alcorn L [2019]. Development and field evaluation of noise controls for jumbo drills. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Madrid: Spanish Acoustical Society (SEA), p. 1493.
NIOSHTIC-2: **20058382**

Camargo H, Peterson S, Kim B, Alcorn L [2019]. Development and field evaluation of noise controls for jumbo drills. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Reston, VA: Institute of Noise Control Engineering, pp. 2486–2493.
NIOSHTIC-2: **20058416**

Caruso CC, Arbour MW, Barger L, Berger AM, Chasens ER, Dawson J, Edmonson JC, Hittle B, Landrigan C, Patrician PA, Redeker NS, Rogers AE, Trinkoff A, Tucker S [2019]. Work hours and fatigue in the Healthcare and Social Assistance Sector. Working Hours, Sleep, & Fatigue Forum: Meeting the Needs of American Workers and Employers, September 13–14, 2019, Coeur d'Alene, Idaho. Cincinnati, OH: National Institute for Occupational Safety and Health, pp. 1–4.
NIOSHTIC-2: **20058409** | NORA: Public Safety

Cunningham TR, Guerin RJ [2019]. Work-related fatigue: a hazard for vulnerable workers. Working Hours, Sleep, & Fatigue Forum: Meeting the Needs of American Workers and Employers, September 13–14, 2019, Coeur d'Alene, Idaho. Cincinnati, OH: National Institute for Occupational Safety and Health, pp. 1–5.
NIOSHTIC-2: **20058414**

DiFrancesco J, Beamer B [2019]. Field comparison of gas-powered vs. battery-powered equipment for grounds maintenance equipment. NOISE-CON 2019. The 34th Conference of the Institute of Noise Control Engineering, August 26–28, 2019, San Diego, California. Washington, DC: The Institute of Noise Control Engineering, pp. 286–293.
NIOSHTIC-2: **20058420**

Eiter BM, Hrica J [2019]. EXAMiner: a case study of the implementation of a hazard recognition safety intervention. In: Cassenti DN, ed. Advances in human factors and simulation: proceedings of the AHFE 2019 International Conferences on Human Factors and Simulation, July 24-28, 2019, Washington, DC. Cham, Switzerland: Springer Verlag, pp. 274–286.
NIOSHTIC-2: **20056336** | NORA: Mining

Fox B, Mines D, Cort J, Jones M, Lu M-L, Potvin J, Rempel D [2019]. The design of experiments in occupational ergonomics research: issues and challenges. Hum Fac Erg Soc P *63*(1):1005–1007.
NIOSHTIC-2: **20058259** | NORA: Manufacturing

Gangrade V, Slaker B, Collins D, Braganza S, Winfield J [2019]. Investigating seismicity surrounding an excavation boundary in a highly stressed dipping underground limestone mine. In: Klemetti T, Mishra B, Lawson H, Murphy M, Perry K, eds. Proceedings of the 38th International Conference on Ground Control in Mining (ICGCM 2019), July 23–25, 2019, Morgantown, West Virginia. Englewood, CO: Society for Mining, Metallurgy & Exploration (SME), pp. 132–142.
NIOSHTIC-2: **20057208** | NORA: Mining

Greene RL, Lu M-L, Barim MS, Wang X, Hayden M, Hu YH, Radwin RG [2019]. Estimating trunk angles during lifting using computer vision bounding boxes. Hum Fac Erg Soc P *63*(1):1128–1129.
NIOSHTIC-2: **20058251** | NORA: Manufacturing

Harris C, Rempel D, Meyers AR, Bao S, Kapellusch J [2019]. Recent findings from the Upper Limb Consortium Study: new approaches to risk assessment and additional health outcomes. Hum Fac Erg Soc P *63*(1):948–954.
NIOSHTIC-2: **20058268**

Harris ML, Sapko MJ, Dyduch Z, Cybulski K, Hildebrandt R, Goodman GV [2019]. Large-scale dust explosions: treated vs. non-treated rock dust. Preprint 19-029. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 4 pages.
NIOSHTIC-2: **20055580** | NORA: Mining

Hoebbel CL, Haas EJ, Ryan ME [2019]. Examining trends in individual risk factors: organizational approaches to emergency management. Preprint 19-059. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 9 pages.
NIOSHTIC-2: **20056018** | NORA: Mining

Iannacchione A, Esterhuizen G, Slaker B, Murphy M, Miller T, Cope N, Thayer S [2019]. Evaluation of stress control layout at the Subtropolis Mine, Petersburg, Ohio. In: Klemetti T, Mishra B, Lawson H, Murphy M, Perry K, eds. Proceedings of the 38th International Conference on Ground Control in Mining (ICGCM 2019), July 23–25, 2019, Morgantown, West Virginia. Englewood, CO: Society for Mining, Metallurgy & Exploration (SME), pp. 122–131.
NIOSHTIC-2: **20057206** | NORA: Mining

Iverson S, Kuchta M [2019]. Comparison of PFC2D modeled damage and the practical damage limits from DRIFT blast design software. Preprint 19-060. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 10 pages.
NIOSHTIC-2: **20056112** | NORA: Mining

Iverson S, Kuchta M [2019]. Comparison of PFC2D modeled damage and the practical damage limits from DRIFT blast design software. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 326–335.
NIOSHTIC-2: **20057554** | NORA: Mining

Kelly-Reif K, Sandler D, Shore D, Schubauer-Berigan M, Troester M, Nylander-French L, Richardson D [2019]. Cancer incidence and mortality among uranium miners in the Příbram region of the Czech Republic. Article No. 04008. BIO Web of Conferences. Vol. 14. The 12th International Conference on the Health Effects of Incorporated Radionuclides (HEIR 2018), October 8–11, 2018, Fontenay-aux-Roses, France.
NIOSHTIC-2: **20057014**

Kim BH, Larson MK [2019]. Development of a 3D numerical tool for assessing the mechanical impact of a fault-rupture by normal fault on underground excavations. Paper No. ARMA 2019–0037. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057680** | NORA: Mining

Klemetti TM, Van Dyke MA, Compton CS, Tulu IB, Tuncay D, Wickline J [2019]. Longwall gateroad yield pillar response and model verification—a case study. Paper No. ARMA 2019–1553. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057682** | NORA: Mining

Klima SS, Organiscak JA, Colinet JF [2019]. Reducing shuttle car operator dust exposure by improving continuous miner blowing face ventilation parameters. Preprint 19-078. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 5 pages.
NIOSHTIC-2: **20055608** | NORA: Mining

Li J, Carr J, Zhou C, DeGennaro C, Whisner B, McElhinney P [2019]. Shielding material comparison for electromagnetic interference mitigation for the air pump motor of personal dust monitors. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 711–715.
NIOSHTIC-2: **20057556**

Lincoln JM, Elliott KC, Syron LN, Flynn M, Levin JL, Smidt M, Dzugan J [2019]. Working hours, sleep, and fatigue in the Agriculture, Forestry, and Fishing Sector. Working Hours, Sleep, & Fatigue Forum: Meeting the Needs of American Workers and Employers, September 13–14, 2019, Coeur d'Alene, Idaho. Cincinnati, OH: National Institute for Occupational Safety and Health, pp. 1–3.
NIOSHTIC-2: **20058398**

Lu M-L, Feng S, Hughes G, Barim MS, Hayden M, Werren D [2019]. Development of an algorithm for automatically assessing lifting risk factors using inertial measurement units. Hum Fac Erg Soc P *63*(1):1334–1338.
NIOSHTIC-2: **20058254** | NORA: Manufacturing

Lu M-L, Rempel DM, Marras WS, Fox RR, Babski-Reeves K, McGowan B, Meyers AR, Gallagher S [2019]. National Occupational Research Agenda for musculoskeletal health. Hum Fac Erg Soc P *63*(1):1331–1333.
NIOSHTIC-2: **20058261** | NORA: Manufacturing

Martell MJ, Bauerle TJ, Willmer DR, Sammarco JJ [2019]. The human factors of mineworker fatigue: unique properties of fatigue in the mining environment. Working Hours, Sleep, & Fatigue Forum: Meeting the Needs of American Workers and Employers, September 13–14, 2019, Coeur d'Alene, Idaho. Cincinnati, OH: National Institute for Occupational Safety and Health, pp. 1–2.
NIOSHTIC-2: **20058410**

Martell MJ, Sammarco JJ [2019]. Light source spectral power effect on luminance measurements in underground coal mines. 2018 IEEE Industry Applications Society Annual Meeting, IAS 2018, September 23–27, 2018, Portland, Oregon. Red Hook, NY: Curran Associates, Inc., pp. 1102–1108.
NIOSHTIC-2: **20054422** | NORA: Mining

Mayton AG, Pollard JP, Nasarwanji MF, Kim BY [2019]. Advancing strategies to reduce worker injury risk on mobile mining equipment. Paper No. DETC2019–98041, V003T01A037. Proceedings of the ASME 2019 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (IDETC/CIE 2019), August 18–21, 2019, Anaheim, California. Vol. 3: 21st International Conference on Advanced Vehicle Technologies; 16th International Conference on Design Education. New York, NY: The American Society of Mechanical Engineers.
NIOSHTIC-2: **20057385** | NORA: Mining

Min GJ, Park SW, Oh SWCSH, Kim BH, Fukuda D [2019]. Dynamic fracture process analysis of controlled blasts to minimize the excavation damage zone in underground excavations. Paper No. ARMA 2019–0307. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057683** | NORA: Mining

Murphy WJ [2019]. The effect of hearing protection on kurtosis. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Madrid: Spanish Acoustical Society (SEA), p. 1475.
NIOSHTIC-2: **20058384**

Murphy WJ [2019]. The effect of hearing protection on kurtosis. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Reston, VA: Institute of Noise Control Engineering, pp. 2327–2335.
NIOSHTIC-2: 20058415

Murphy WJ, Azman AS, Masterson EA, Wells LL [2019]. National Occupational Research Agenda for hearing loss prevention. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Madrid: Spanish Acoustical Society (SEA), p. 2111.
NIOSHTIC-2: 20058386

Murphy WJ, Azman AS, Masterson EA, Wells LL [2019]. National Occupational Research Agenda for hearing loss prevention. Inter-Noise 2019: Noise Control for a Better Environment, the 48th International Congress and Exposition on Noise Control Engineering: June 16–19, 2019, Madrid, Spain. Reston, VA: Institute of Noise Control Engineering, pp. 7541–7550.
NIOSHTIC-2: 20058419

Nasarwanji MF, Mayton AG, Pollard J [2019]. Why slips, trips, and falls are still a problem: a hazard assessment at surface mines. Hum Fac Erg Soc P *63*(1):1856–1860.
NIOSHTIC-2: 20058267

Noll J, Cauda E, Vanderslice S, Barone T [2019]. Quantification of the effects of carbon on filter media in SKC DPM cassettes on measurements of diesel particulate matter in underground mines. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 203–207.
NIOSHTIC-2: 20057559 | NORA: Mining

Orr TJ, Bellanca JL, Navoyski J, Macdonald B, Helfrich W, Demich B [2019]. Development of visual elements for accurate simulation. In: Cassenti DN, ed. Advances in human factors and simulation: proceedings of the AHFE 2019 International Conferences on Human Factors and Simulation, July 24–28, 2019, Washington, DC. Cham, Switzerland: Springer Verlag, pp. 287–299.
NIOSHTIC-2: 20056338 | NORA: Mining

Parks D, McNinch M, Jacksha R, Nickerson H [2019]. Intelligent monitoring system for improved worker safety during plant operation and maintenance. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 181–184.
NIOSHTIC-2: 20057553

Perera IE, Harris ML, Sapko MJ, Zlochower I [2019]. Analysis and characterization of anti-caking additives used in rock dust. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 268–273.
NIOSHTIC-2: **20057546** | NORA: Mining

Rahman MM, Deb S, Carruth D, Strawderman L [2019]. Using technology acceptance model to explain driver acceptance of advanced driver assistance systems. In: Stanton N, ed. Advances in human factors of transportation: proceedings of the AHFE 2019 International Conferences on Human Factors in Transportation, July 24–28, 2019, Washington, DC. Cham, Switzerland: Springer Verlag, pp. 44–56.
NIOSHTIC-2: **20056337**

Raj KV, Parks DA, McNinch M, Wilson J, Miller AL [2019]. Evaluating performance of real-time DPM monitors for quantifying airborne elemental carbon (EC) and organic carbon (OC). Preprint 19-087. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, Colorado: Society for Mining, Metallurgy, and Exploration, Inc., 6 pages.
NIOSHTIC-2: **20055996** | NORA: Mining

Raj KV, Parks DA, McNinch M, Wilson J, Miller AL [2019]. Evaluating performance of real-time DPM monitors for quantifying airborne elemental carbon (EC) and organic carbon (OC). 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 453–458.
NIOSHTIC-2: **20057552** | NORA: Mining

Rashed G, Mohamed K, Gearhart DF, Esterhuizen GS [2019]. Calibration of coal-mass model in a longwall mine: a case study. Paper No. ARMA 2019–1687. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057204** | NORA: Mining

Retzer KD, Lerman SE, Pratt SG [2019]. U.S. oil and gas extraction workers: fatigue, sleep, and working hours. Working Hours, Sleep, & Fatigue Forum: Meeting the Needs of American Workers and Employers, September 13–14, 2019, Coeur d'Alene, Idaho. Cincinnati, OH: National Institute for Occupational Safety and Health, pp. 1–4.
NIOSHTIC-2: **20058411**

Seaman CE, Shahan MR, Beck TW, Mischler SE [2019]. Design of a water curtain to reduce accumulations of float coal dust in longwall returns. Proceedings of the 17th North American Mine Ventilation Symposium (NAMVS 2019), April 28–May 1, 2019, Montréal, Canada. Montréal: Canadian Institute of Mining, Metallurgy and Petroleum, pp. 1–9.
NIOSHTIC-2: **20057210** | NORA: Mining

Sears MM, Slaker B, Rashed G, Winfield J [2019]. Numerical model validation and analysis of a dipping limestone pillar using FLAC3D. Paper No. ARMA 2019–2157. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057205** | NORA: Mining

Shahan MR, Reed WR [2019]. The design of a laboratory apparatus to simulate the dust generated by longwall shield advances. Preprint 19-018. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 9 pages.
NIOSHTIC-2: **20056020** | NORA: Mining

Shahan MR, Reed WR [2019]. The design of a laboratory apparatus to simulate the dust generated by longwall shield advances. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 97–101.
NIOSHTIC-2: **20057561** | NORA: Mining

Sieber WK, Iker K, Lincoln JE, Menendez CC, O'Connor MB, Krueger GP [2019]. Research gaps and needs for work hours and fatigue in the transportation, warehousing, and utilities sector. Working Hours, Sleep, & Fatigue Forum: Meeting the Needs of American Workers and Employers, September 13–14, 2019, Coeur d'Alene, Idaho. Cincinnati, OH: National Institute for Occupational Safety and Health, pp. 1–4.
NIOSHTIC-2: **20058413**

Slaker B, Murphy M, Winfield J [2019]. Tracking convergence, spalling, and cutter roof formation at the Pleasant Gap limestone mine using LiDAR. Paper No. ARMA 2019–1566. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057203** | NORA: Mining

Stone D, Pakalnis R, Seymour B [2019]. Interpreting backfill QA/QC test data: do we need an industry standard? Preprint 19-043. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 6 pages.
NIOSHTIC-2: **20055604** | NORA: Mining

Su DWH, Zhang P, Dougherty H, Van Dyke M, Minoski T, Schatzel S, Gangrade V, Watkins E, Addis J, Hollerich C [2019]. Effects of longwall-induced subsurface deformations and permeability changes on shale gas well integrity and safety under shallow cover. Paper No. ARMA 2019–0013. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057677** | NORA: Mining / Oil and Gas Extraction

Tuncay D, Tulu IB, Klemetti T [2019]. A new abutment angle equation for deep cover coal mines. Paper No. ARMA 2019–0325. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057678** | NORA: Mining

Van Dyke MA, Klemetti T, Su WH [2019]. Interpreting entry stability and geologic hazards utilizing borescopes. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 129–133.
NIOSHTIC-2: **20057555**

Weston EB, Dufour JS, Lu M-L, Marras WS [2019]. A comparison of spinal loads while lifting in confined vertical space. Hum Fac Erg Soc P *63*(1):1130–1131.
NIOSHTIC-2: **20058256** | NORA: Manufacturing

Wu JZ, Pan CS, Wimer BM [2019]. Effects of impactor mass in top impact tests in evaluation of shock absorption performance of construction helmets: a preliminary study. Proceedings of the XXXIst Annual International Occupational Ergonomics and Safety Conference, June 12–13, 2019, New Orleans, Louisiana. New Orleans: International Society for Occupational Ergonomics and Safety (ISOES), pp. 148–155.
NIOSHTIC-2: **20057845** | NORA: Construction

Wu JZ, Pan CS, Wimer BM [2019]. Shock absorption performance of construction helmets under repeated top impacts. Proceedings of the XXXIst Annual International Occupational Ergonomics and Safety Conference, June 12–13, 2019, New Orleans, Louisiana. New Orleans: International Society for Occupational Ergonomics and Safety (ISOES), pp. 144–147.
NIOSHTIC-2: **20057842** | NORA: Construction

Xu SS, Lei Z, Zhuang Z, Bergman M [2019]. Computational fluid dynamics simulation of flow of exhaled particles from powered-air purifying respirators. Paper No. DETC2019–97826, V001T02A048. Proceedings of the ASME 2019 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, (IDETC/CIE 2019), August 18–21, 2019, Anaheim, California. Vol. 1: 39th Computers and Information in Engineering Conference. New York, NY: The American Society of Mechanical Engineers.
NIOSHTIC-2: **20058136**

Yan L, Yantek D, Reyes M, Whisner B, Bickson J, Srednicki J, Damiano N, Bauer E [2019]. Cryogenic air supply for cooling built-in-place refuge alternatives in hot mines. Preprint 19-055. 2019 SME Annual Meeting, February 24–27, 2019, Denver, Colorado. Englewood, CO: Society for Mining, Metallurgy, and Exploration, Inc., 6 pages.
NIOSHTIC-2: **20057388** | NORA: Mining

Zhang P, Dougherty H, Su D, Trackemas J [2019]. Influence of longwall mining on the stability of gas wells in chain pillars. In: Klemetti T, Mishra B, Lawson H, Murphy M, Perry K, eds. Proceedings of the 38th International Conference on Ground Control in Mining (ICGCM 2019), July 23–25, 2019, Morgantown, West Virginia. Englewood, CO: Society for Mining, Metallurgy & Exploration (SME), pp. 38–48.
NIOSHTIC-2: **20057384** | NORA: Mining / Oil and Gas Extraction

Zhang P, Su D, Lu J [2019]. Influence of longwall mining on the stability of shale gas wells in barrier pillars. Paper No. ARMA 2019–0276. 53rd U.S. Rock Mechanics/Geomechanics Symposium, June 23–26, 2019, New York, NY. Alexandria, VA: American Rock Mechanics Association.
NIOSHTIC-2: **20057686** | NORA: Mining / Oil and Gas Extraction

Zhou C, Whisner B, Carr J [2019]. An experimental study of magnetic field coupling from proximity detection systems to trailing cables. 2019 IEEE Industry Applications Society Annual Meeting, IAS 2019, September 29–October 3, 2019, Baltimore, Maryland. Piscataway, NJ: Institute of Electrical and Electronics Engineers (IEEE), pp. 1–10.
NIOSHTIC-2: **20058166**

Zhou C, Whisner B, Carr J [2019]. An experimental study of the effect of mesh on magnetic proximity detection systems. 2019 SME Annual Conference & Expo and CMA 121st National Western Mining Conference: Smart Mining: Resources for a Connected World, February 24–27, 2019, Denver, Colorado. Red Hook, NY: Curran Associates, Inc., pp. 433–437.
NIOSHTIC-2: **20057564**

Zhou L, Yuan L, Bahrami D, Thomas RA, Cole GP, Rowland JH [2019]. Study on integration of real-time atmospheric monitoring system data and MFIRE simulation. Proceedings of the 17th North American Mine Ventilation Symposium, April 21–May 1, 2019, Montréal, Canada. Montréal: Canadian Institute of Mining, Metallurgy and Petroleum, pp. 794–803.
NIOSHTIC-2: **20056245** | NORA: Mining

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Abstracts

Anderson S [2019]. NIOSH—Development of the National Occupational Research Agenda (NORA) for the Immune, Infectious and Dermal Disease Prevention Program. Abstract. Work, Stress and Health, pp. 51–52.
NIOSHTIC-2: **20058522**

Antonini J, Kodali V, Boyce G, Roach K, Meighan T, Salmen R, Kashon M, Boots T, Roberts J, Zeidler-Erdely P, Erdely A, Shoeb M [2019]. Effect of diet and occupational exposure in different rat strains on serum biomarkers and peripheral blood mononuclear cell telomere length: development of an animal model to examine the exposome. Abstract. Toxicologist *168*(1):239.
NIOSHTIC-2: **20054953** | NORA: Construction

Bahrami D, Yuan L, Rowland JH, Zhou L, Thomas R [2019]. Evaluation of post-blast re-entry times based on gas monitoring of return air. Abstract. Min Eng *71*(7):98–100.
NIOSHTIC-2: **20058600** | NORA: Mining

Baur R, Marshall N, Lukomska E, Weatherly L, Shane H, Anderson S [2019]. Alterations in the mouse skin and gut microbiome following dermal exposure to the antimicrobial chemical triclosan. Abstract. Toxicologist *168*(1):304.
NIOSHTIC-2: **20055074** | NORA: Healthcare and Social Assistance

Bellanca JL, Orr TJ, Helfrich WJ, Macdonald B, Navoyski J, Demich B [2019]. Developing a virtual reality environment for mining research. Abstract. Min Eng *71*(5):73–74.
NIOSHTIC-2: **20056016**

Bellanca JL, Swanson LR, Helton J, McNinch M [2019]. Mineworkers' perceptions of mobile proximity detection systems. Abstract. Min Eng *71*(6):49–51.
NIOSHTIC-2: **20058594**

Bennett J [2019]. Ventilation design considerations for occupant health in aircraft painting facilities under OSHA requirements. Abstract. ASHRAE Trans *125*(Part 2):321–339.
NIOSHTIC-2: **20058641**

Bennett J, Dos Santos Teixeira V, Zhang Y, Hoque S [2019]. Influence of source location and ventilation rates on contaminant dispersion pattern in an aircraft cabin. Abstract. ASHRAE Trans *125*(Part 2):102–105.
NIOSHTIC-2: **20058640** | NORA: Transportation, Warehousing and Utilities

Bhattacharya A, Quay B [2019]. Shift work in the wholesale and retail trade sector. Abstract. Sleep Sci *12*(Suppl 3):26.
NIOSHTIC-2: **20057989**

Boyce G, Shoeb M, Kodali V, Meighan T, Roberts J, Erdely A, Antonini J [2019]. Using liquid chromatography mass spectrometry (LC-MS) to assess the effect of age, diet, and rat strain on the global metabolome. Abstract. Toxicologist *168*(1):463–464.
NIOSHTIC-2: **20055073** | NORA: Construction

Canal CG, Mostovenko E, Young T, Erdely A, Campen MJ, Ottens AK [2019]. Exosomes as a systemic mediator of nanotube-induced dysfunction. Abstract. Toxicologist *168*(1):49–50.
NIOSHTIC-2: **20055167**

Caruso CC, Baldwin CM, Berger A, Chasens ER, Edmonson JC, Gobel BH, Landis CA, Patrician PA, Redeker NS, Scott LD, Todero C, Trinkoff A, Tucker S [2019]. Disseminating policy recommendations to reduce fatigue in nurses. Abstract. Sleep Sci *12*(Suppl 3):7.
NIOSHTIC-2: **20057982** | NORA: Public Safety

Casey M [2019]. NIOSH—Addressing current needs in the Healthcare and Social Assistance Industry Sector. Abstract. Work, Stress and Health, pp. 48–49.
NIOSHTIC-2: **20058553**

Castillo D [2019]. NIOSH—Transportation, Warehousing, and Utilities Program. Abstract. Work, Stress and Health, pp. 49–50.
NIOSHTIC-2: **20058098** | NORA: Transportation, Warehousing and Utilities

Chen G-X [2019]. Survey of working and sleeping time by industry and occupation of fulltime workers in the U.S. Abstract. Sleep Sci *12*(Suppl 3):29.
NIOSHTIC-2: **20057990** | NORA: Transportation, Warehousing and Utilities

Coyle J, Derk R, Kornberg T, Singh D, Stueckle T, Demokritou P, Rojanasakul Y, Rojanasakul L [2019]. Incinerated carbon nanotube-enabled thermoplastics enhance cytotoxicity in human airway in vitro models. Abstract. Toxicologist *168*(1):283.
NIOSHTIC-2: **20054978** | NORA: Manufacturing

Dahm M [2019]. Perspectives from the field: occupational exposures to carbon nanotubes in the U.S. Abstract. Toxicologist *168*(1):378.
NIOSHTIC-2: **20055062**

D'Alessandro M [2019]. NIOSH—Public Safety Sector Program. Abstract. Work, Stress and Health, pp. 49.
NIOSHTIC-2: **20058097**

Desai I, Miller W, Kodali V, Syamlal G, Roberts J, Erdely A, Yanamala N [2019]. Machine learning approaches to categorize carbonaceous nanomaterials based on patterns of inflammatory markers and pathological outcomes in lungs. Abstract. Toxicologist *168*(1):178–179.
NIOSHTIC-2: **20054919** | NORA: Manufacturing

Ding M, Barber T, Leonard S, Aldinger J [2019]. Titanium dioxide nanoparticle induced AP-1 activation via ERKs and p38 kinase. Abstract. Toxicologist *168*(1):284.
NIOSHTIC-2: **20055001** | NORA: Manufacturing

Erdely A [2019]. Understanding the changing exposure and toxicity profile of engineered nanomaterials from production to application. Abstract. Toxicologist *168*(1):500.
NIOSHTIC-2: **20055075** | NORA: Manufacturing

Farcas M, Stefaniak A, Knepp A, Bowers L, Jackson S, Mandler W, Stueckle T, Friend S, Qi C, Hammond D, Thomas T, Matheson J, Qian Y [2019]. Physicochemical characterization and in vitro toxicity of emissions from a 3D printer. Abstract. Toxicologist *168*(1):464.
NIOSHTIC-2: **20055076** | NORA: Manufacturing

Flynn M [2019]. NIOSH—Occupational Health Equity Program. Abstract. Work, Stress and Health, pp. 54.
NIOSHTIC-2: **20058561**

Fraser K, Kodali VK, Bishop L, Eye T, Hubczak J, Foster S, Yanamala N, Schwegler-Berry D, Friend S, Stefaniak A, Dahm MM, Schubauer-Berigan MK, Birch EM, Evans DE, Wu NQ, Casuccio G, Bunker K, Orandle MS, Hubbs AF, Mercer RR, Erdely A [2019]. Comparative in vivo assessment of alveolar fibrosis, histopathology, and systemic translocation induced by carbon nanotubes and nanofibers from U.S. facilities. Abstract. Toxicologist *168*(1):289.
NIOSHTIC-2: **20055011** | NORA: Manufacturing

Gangrade V, Schatzel SJ, Harteis SP, Addis JD [2019]. Investigating the impact of caving on longwall mine ventilation using scaled physical modeling. Abstract. Min Eng *71*(7):94–96.
NIOSHTIC-2: **20058598** | NORA: Mining: Oil and Gas Extraction

Guerin R [2019]. NIOSH ● Safe ● Skilled ● Ready Workforce Program. Abstract. Work, Stress and Health, pp. 55–56.
NIOSHTIC-2: **20058567**

Guerin R [2019]. Preparing the future workforce with occupational safety and health competencies. Abstract. Work, Stress and Health, pp. 74–75.
NIOSHTIC-2: **20058023**

Haas E [2019]. Using safety climate assessments to identify significant predictors of mineworkers' H&S performance. Abstract. Work, Stress and Health, pp. 34–35.
NIOSHTIC-2: **20058096**

Haas EJ, Cecala AB, Colinet JF [2019]. Comparing the implementation of two dust control technologies from a sociotechnical systems perspective. Abstract. Min Eng *71*(8):58–59.
NIOSHTIC-2: **20058573**

Hornback D [2019]. NIOSH—Wholesale and Retail Trade Program. Abstract. Work, Stress and Health, pp. 50.
NIOSHTIC-2: **20058099** | NORA: Wholesale and Retail Trade

Hsiao H [20196]. NIOSH—Center for Occupational Robotics Research: program, goals, and research. Abstract. Work, Stress and Health, pp. 54–55.
NIOSHTIC-2: **20058562**

Hubczak J, Erdely A, Stueckle T, Smith K, Eye T, Shoeb M, Stefaniak A, Roberts J, Kodali V [2019]. Bioactivity of multiwalled carbon nanotube mixtures with multiple aspect ratios. Abstract. Toxicologist *168*(1):286.
NIOSHTIC-2: **20055013** | NORA: Construction / Manufacturing

Imam SZ, He Z, Lantz SM, Raymick J, Robinson B, Cuevas E, Sarkar S, Law C, Hanig J, Herr D, MacMillan D, Smith A, Liachenko S, O'Callaghan JP, Miller DB, Somps C, Pardo ID, Pierson JB, Roberts R, Gong B, Tong W, Aschner M, Kallman M, Calligaro D, Feruson SA, Paule MG, Slikker W [2019]. Circulating biomarkers of neurotoxicity: identifying fluidic endpoints correlating with central nervous system toxicity in a rodent model of neurotoxicity. Abstract. Toxicologist *168*(1):180.
NIOSHTIC-2: **20055166** | NORA: Manufacturing

Jacklitsch B [2019]. NIOSH—Small Business Assistance Program. Abstract. Work, Stress and Health, pp. 56.
NIOSHTIC-2: **20058568**

Jones BC, O'Callaghan JP, Miller DB, Lu L, Zhao W, Ashbrook D [2019]. Genetic-based, differential susceptibility to exposure to combined organophosphate and increased glucocorticoid in a mouse model of Gulf War Illness. Abstract. Toxicologist *168*(1):274.
NIOSHTIC-2: **20054979**

Joseph P, Sager T, Chen T, McKinney W, Orandle M, Roberts J, Umbright C [2019]. Crystalline nanocellulose-induced lung toxicity and global gene expression changes in the rat. Abstract. Toxicologist *168*(1):291–292.
NIOSHTIC-2: **20055014** | NORA: Manufacturing

Kan H, Zheng W, McKinney W, Kashon M, Castranova V [2019]. The effect of inhaled multiwalled carbon nanotubes on blood pressure in spontaneously hypertensive rats. Abstract. Toxicologist *168*(1):250.
NIOSHTIC-2: **20054963** | NORA: Manufacturing

Kaur H, Grosch J [2019]. Subjective cognitive decline among U.S. workers aged >/=45 years by occupation, BRFSS, 2015–2016. Abstract. Occup Environ Med *76*(Suppl 1):A68.
NIOSHTIC-2: **20056829** | NORA: Wholesale and Retail Trade

Kaur H, Lampl M, Grosch J, Wurzelbacher S, Tseng C-Y, Bushnell T, Scholl J, Meyers A, Ortiz B [2019]. Overexertion related age-specific WMSDs claims among construction workers in Ohio, USA: 2007–2013. Abstract. Occup Environ Med *76*(Suppl 1):A42.
NIOSHTIC-2: **20056828** | NORA: Wholesale and Retail Trade

Kelly K, Michalovicz L, Fornal C, Miller D, O'Callaghan J, Lasley S [2019]. Behavioral and histological evidence of a neuroimmune basis for Gulf War Illness. Abstract. Toxicologist *168*(1):83.
NIOSHTIC-2: **20054910**

Khaliullin TO, Newman MS, Kisin ER, Suleimanova KA, Fatkhutdinova LM, Yanamala N, Shvedova AA [2019]. Changes in lung and blood transcriptomes following exposure to multiwalled carbon nanotubes in mice. Abstract. Toxicologist *168*(1):290.
NIOSHTIC-2: **20055012** | NORA: Mining

Kisin E, Guppi S, Yanamala N, Shvedova A [2019]. In vitro dermal toxicity of redox-active metal nanocatalysts. Abstract. Toxicologist *168*(1):285.
NIOSHTIC-2: **20054994** | NORA: Manufacturing

Kodali V, Roach K, Kashon M, Boots T, Shoeb M, Boyce G, Meighan T, Eye T, Zeidler-Erdely P, Roberts J, Antonini J, Erdely A [2019]. Understanding the lung-gut axis by modeling the influence of welding fume inhalation exposure and lifestyle on the profile of gut microbiome and systemic immune cells. Abstract. Toxicologist *168*(1):240–241.
NIOSHTIC-2: **20054965** | NORA: Construction

Kornberg T, Stueckle T, Coyle J, Derk R, Demokritou P, Rojanasakul Y, Rojanasakul L [2019]. Amorphous silica coating protects against iron oxide nanoparticle-induced cell transformation and genotoxicity. Abstract. Toxicologist *168*(1):285.
NIOSHTIC-2: **20055003** | NORA: Manufacturing

Ladd TB, Barnes MA, Mumaw CL, Green BJ, Beezhold DH, Block ML [2019]. Moderate *Aspergillus versicolor* inhalation exposure triggers neuroinflammation. Abstract. Toxicologist *168*(1):246–247.
NIOSHTIC-2: **20054962**

Li J, Smith A, Carr J, Whisner B [2019]. Influence of temperature on generator current and magnetic field of a proximity detection system. Abstract. Min Eng *71*(6):51–52.
NIOSHTIC-2: **20058597**

Mandler W, Sisler J, Qi C, Battelli L, Orandle M, Sarkisian K, Mercer R, Stefaniak A, Knepp A, Bowers L, Qian Y [2019]. Mouse pulmonary response induced by exposure to dust from sawing corian, a solid-surface composite material. Abstract. Toxicologist *168*(1):21.
NIOSHTIC-2: **20054872** | NORA: Manufacturing / Construction

McNinch M, Parks D, Jacksha R, Miller A [2019]. Leveraging IIoT to improve machine safety in the mining industry. Abstract. Min Eng *71*(11):51–52.
NIOSHTIC-2: **20058604**

Michalovicz LT, Kelly KA, Miller DB, Sullivan K, O'Callaghan JP [2019]. Propranolol as a novel treatment for Gulf War Illness in a preclinical mouse model. Abstract. Toxicologist *168*(1):80.
NIOSHTIC-2: **20054891** | NORA: Manufacturing

Mitchell S [20196]. NIOSH—Total Worker Health® Program: exploring new research horizons for worker well-being. Abstract. Work, Stress and Health, pp. 53.
NIOSHTIC-2: **20058559**

Moller K [2019]. NIOSH—Oil and Gas Extraction Program. Abstract. Work, Stress and Health, pp. 56.
NIOSHTIC-2: **20058570**

Morris A, Olgun N, Attfield K, Fowles J, Leonard S [2019]. Effects of e-cigarette flavoring chemicals on human macrophages and bronchial epithelial cells. Abstract. Toxicologist *168*(1):219.
NIOSHTIC-2: **20054944** | NORA: Manufacturing

Mostovenko E, Saunders SA, Vucetic A, Fraser K, Campen MJ, Erdely A, Ottens AK [2019]. Effects of repeated nanomaterial exposure and recovery on circulating mediators and neurotoxicity. Abstract. Toxicologist *168*(1):294.
NIOSHTIC-2: **20055064** | NORA: Manufacturing

Nigam J [2019]. NIOSH—An overview of the NIOSH Healthy Work Design and Well-Being Cross Sector. Abstract. Work, Stress and Health, pp. 52–53.
NIOSHTIC-2: **20058549**

Nigam J [2019]. Using Total Worker Health® to examine work organization and well-being in local/short-haul commercial trucking. Interview and focus group. Abstract. Work, Stress and Health, pp. 12.
NIOSHTIC-2: **20058091**

Olgun N, Morris A, Bowers L, Stefaniak A, Friend S, Leonard S [2019]. Stainless steel welding fumes adversely affect migratory ability of first trimester human placental cells. Abstract. Toxicologist *168*(1):122.
NIOSHTIC-2: **20054915** | NORA: Manufacturing

Ortiz B [2019]. NIOSH—National Center for Productive Aging and Work. Abstract. Work, Stress and Health, pp. 55.
NIOSHTIC-2: **20058565**

Parks DA, Raj KV, Berry CA, Weakley AT, Griffiths PR, Miller AL [2019]. Towards a field-portable real-time organic and elemental carbon monitor. Abstract. Min Eng *71*(9):51–53.
NIOSHTIC-2: **20057365** | NORA: Mining

Penatzer JA, Miller J, Prince N, Michalovicz L, Kelly K, O'Callaghan J, Boyd J [2019]. A network approach to phosphoprotein signaling in a mouse model of Gulf War Illness using corticosterone and diisopropyl fluorophosphate. Abstract. Toxicologist *168*(1):72.
NIOSHTIC-2: **20055169** | NORA: Manufacturing

Pratt S [20196]. NIOSH—Center For Motor Vehicle Safety: keeping workers safe on the road. Abstract. Work, Stress and Health, pp. 53–54.
NIOSHTIC-2: **20058560**

Quay BR [2019]. A descriptive analysis of shift start-time and schedule by industry. Abstract. Sleep Sci *12*(Suppl 3):58.
NIOSHTIC-2: **20058009**

Riedy SM, Fekedulegn D, Dawson D, Andrew ME, Violanti JM [2019]. Model-derived estimates of police officers' sleepiness using actual and predicted sleep/wake behavior. Abstract. Sleep Sci *12*(Suppl 3):17.
NIOSHTIC-2: **20057988** | NORA: Public Safety

Roach KA, Anderson SE, Stefaniak AB, Shane HL, Roberts JR [2019]. Evaluation of the skin sensitizing potential of gold nanomaterials and the impact of established dermal sensitivity to gold on the pulmonary immune response with respect to dose mass and surface area. Abstract. Toxicologist *168*(1):288.
NIOSHTIC-2: **20055010** | NORA: Manufacturing

Roberts J, Kodali V, Xin X, Barger M, Roach K, Stefaniak A, Eye T, Wolfarth M, Leonard S, Porter D, Erdely A [2019]. Bioactivity of boron nitride nanotube preparations that differ in purity in vitro and in vivo. Abstract. Toxicologist *168*(1):291.
NIOSHTIC-2: **20055039** | NORA: Manufacturing

Rowland JH, Yuan L, Thomas RA, Zhou L [2019]. Evaluation of different carbon monoxide sensors for battery charging stations. Abstract. Min Eng *71*(1):41–43.
NIOSHTIC-2: **20058589** | NORA: Mining

Sager T [2019]. Functional significance of the SLC26A4 gene in silica-induced pulmonary toxicity. Abstract. Toxicologist *168*(1):240.
NIOSHTIC-2: **20054964** | NORA: Construction / Manufacturing

Schatzel SJ, Gangrade V, Addis JD, Hollerich CA, Chasko LL [2019]. Face ventilation on a bleederless longwall panel. Abstract. Min Eng *71*(6):45–46.
NIOSHTIC-2: **20058593** | NORA: Mining: Oil and Gas Extraction

Schuler C [2019]. NIOSH—Traumatic Injury Prevention Program. Abstract. Work, Stress and Health, pp. 52.
NIOSHTIC-2: **20058548**

Schulte P [2019]. Mapping future-of-work scenarios to identify potential occupational hazards. Abstract. Work, Stress and Health, pp. 74.
NIOSHTIC-2: **20058022**

Sears MM, Esterhuizen GS, Tulu IB [2019]. Overview of current U.S. longwall gateroad support practices: an update. Abstract. Min Eng *71*(11):52–54.
NIOSHTIC-2: **20058408**

Shoeb M, Kodali V, Meighan T, Roach K, Xin X, Boyce G, Roberts J, Erdely A, Antonini J [2019]. Assessment of welding fume exposure on telomere length and regulation in peripheral blood mononuclear cells and lung tissue in rats. Abstract. Toxicologist *168*(1):112.
NIOSHTIC-2: **20054913** | NORA: Construction

Shvedova A, Guppi S, Khaliullin T, Yanamala N, Kisin E [2019]. Comparative in vitro study of adverse pro-neoplastic potential of tremolite asbestos and its cleavage fragments in human epithelial (BEAS-2B) and mesothelial (MET-5A) cells. Abstract. Toxicologist *168*(1):285–286.
NIOSHTIC-2: **20054998** | NORA: Mining

Sriram K, Lin GX, Jefferson AM, McKinney W, Fedan JS [2019]. Neural effects of fracking sand dust aerosols. Abstract. Toxicologist *168*(1):19.
NIOSHTIC-2: **20054889**

Stueckle T [2019]. NIOSH—Chronic Disease Cross Sector of NORA Council: identification and prevention of occupational disease. Abstract. Work, Stress and Health, pp. 50–51.
NIOSHTIC-2: **20058100**

Stueckle T, Wagner A, Jensen J, Afshari A, Lee EG, Kwon J, Coyle J, Derk R, Friend S, Agarwal S, Gupta R, Dinu CZ [2019]. Assessing organomodified nanoclay pulmonary toxicity across its life cycle using integrated exposure and in vitro/in vivo approaches. Abstract. Toxicologist *168*(1):282.
NIOSHTIC-2: **20054981** | NORA: Manufacturing

Swanson LR, Bellanca JL [2019]. If the technology fits: an evaluation of mobile proximity detection systems in underground coal mines. Abstract. Min Eng *71*(8):60–62.
NIOSHTIC-2: **20058602**

Thompson JA, McKinney WG, Jackson MC, Fedan JS [2019]. Effects of diesel exhaust on airway epithelial ion transport and lung function in the rat. Abstract. Toxicologist *168*(1):32.
NIOSHTIC-2: **20054890** | NORA: Oil and Gas Extraction

Violanti JM, Mnatsakanova A, Fekedulegn D, Gu JK, Andrew ME [2019]. Does shiftwork modify associations of age with injury among police? Abstract. Sleep Sci *12*(Suppl 3):73.
NIOSHTIC-2: **20058010** | NORA: Public Safety

Wang Rojanasakul L, Kornberg T, Coyle J, He X, Kiratipaiboon C, Stueckle T, Derk R, Demokritou P, Rojanasakul Y [2019]. Biomimetic in vitro/in vivo models for assessment of hazardous pulmonary effects of nanoparticles. Abstract. Toxicologist *168*(1):282.
NIOSHTIC-2: **20054977** | NORA: Manufacturing

Xin X, Barger M, Roach K, Boyce G, Duling M, Stefaniak A, Leonard S, Roberts J [2019]. Pulmonary toxicity associated with different zinc nanoparticles after intratracheal instillation in rats. Abstract. Toxicologist *168*(1):291.
NIOSHTIC-2: **20055035** | NORA: Manufacturing

Young TL, Herbert G, Lucas S, Sanchez B, Begay J, Ottens AK, Erdely A, Campen M [2019]. Effects of multi-walled carbon nanotube exposure on brain oxidative stress and inflammation in C57BL/6 mice. Abstract. Toxicologist *168*(1):292–293.
NIOSHTIC-2: **20055017** | NORA: Manufacturing

Zeidler-Erdely P, Erdely A, Salmen R, Battelli L, Dodd T, Keane M, McKinney W, Stone S, Donlin M, Leonard H, Cumpston J, Cumpston J, Mercer R, Chen B, Andrews R, Kashon M, Antonini J, Falcone L [2019]. Lack of lung tumor promotion after inhalation of a copper-nickel welding fume in A/J mice. Abstract. Toxicologist *168*(1):240.
NIOSHTIC-2: **20054947** | NORA: Manufacturing

Zheng Y, Reed WR, Shahan MR, Rider JP [2019]. Evaluation of roof bolter canopy air curtain effects on airflow and dust dispersion in an entry using blowing curtain ventilation. Abstract. Min Eng *71*(7):100–101.
NIOSHTIC-2: **20058601** | NORA: Mining

Zhou C, Li J, Damiano N, Carr J, Noll J [2019]. Influence of trailing cables on magnetic proximity detection systems. Abstract. Min Eng *71*(8):56–58.
NIOSHTIC-2: **20058572**

Control Technology Reports

NIOSH [2019]. Comprehensive report: laboratory evaluation of saw blades for cutting fiber-cement siding. By Qi C, Kang S. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Control Technology Report No. EPHB-19-114.
NIOSHTIC-2: **20057363**

NIOSH [2019]. In-depth survey report: concrete surface preparation tools machines 7. By Garcia A, Marlow D, Echt A. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Control Technology Report No. EPHB-368-16a.
NIOSHTIC-2: **20057374** | NORA: Construction

NIOSH [2019]. In-depth survey report: removing mortar with a die grinder with on-tool local exhaust ventilation, International Union of Bricklayers and Allied Craftworkers Southern Ohio—Kentucky Regional Training Center, Batavia, Ohio. By Echt A, Qi C. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Control Technology Report No. EPHB-381-15a.
NIOSHTIC-2: **20057360** | NORA: Construction

NIOSH [2019]. Engineering research report: development of a dry decontamination method for mass casualty events—the NIOSH DryCon System. By Alexander BM, Merk G. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Control Technology Report No. EPHB-383-11a.
NIOSHTIC-2: **20057362** | NORA: Public Safety

NIOSH [2019]. In-depth survey report: field evaluation of a mobile dust control booth for stone countertop grinding. By Qi C, Echt A. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Control Technology Report No. EPHB-2020-DFSE-165.
NIOSHTIC-2: **20058064** | NORA: Construction / Manufacturing

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Fatality Assessment and Control Evaluation Reports

NIOSH [2019]. Two tower climbers fatally injured when a cellular tower collapsed while performing tower upgrades—West Virginia. By Moore M, Romano N. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fatality Assessment and Control Evaluation (FACE) Report No. FACE-2015-02.
NIOSHTIC-2: **20056551**

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Fire Fighter Fatality Investigation and Prevention Reports

NIOSH [2019]. Career fire fighter critically injured during surf rescue training dies two days later—Hawaii. By Miles S. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2016-12.
NIOSHTIC-2: **20057730** | NORA: Public Safety

NIOSH [2019]. Volunteer fire fighter dies after being ejected from rear seat of fire department pickup truck—Iowa. By Hales T, Bowyer M. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2017-07.
NIOSHTIC-2: **20055320** | NORA: Public Safety

NIOSH [2019]. 47-Year-old firefighter suffers cardiac arrest at gym after shift—Massachusetts. By Smith DL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018-01.
NIOSHTIC-2: **20054766** | NORA: Public Safety

NIOSH [2019]. 54-Year-old firefighter suffers carbon monoxide toxicity and cardiac event during overhaul—Massachusetts. By Smith DL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018-02.
NIOSHTIC-2: **20054771** | NORA: Public Safety

NIOSH [2019]. 44-Year-old female firefighter suffers sudden cardiac arrest at station—Georgia. By Smith DL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018-05.
NIOSHTIC-2: **20054772** | NORA: Public Safety

NIOSH [2019]. Structure collapse at 140-year old mill building kills 2 career fire fighters and injures 2 others—Pennsylvania. By Merinar TR, Bowyer ME, Kline K. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018-06.
NIOSHTIC-2: **20056137** | NORA: Public Safety

NIOSH [2019]. One fire fighter dies and one fire fighter burned during firefighting operations at a grass fire—Texas. By Loflin ME. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018-07.
NIOSHTIC-2: **20056791** | NORA: Public Safety

NIOSH [2019]. Two fire fighters die and three fire fighters injured in a fire apparatus crash—West Virginia. By Loflin ME. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018-08.
NIOSHTIC-2: **20057058** | NORA: Public Safety

NIOSH [2019]. Career part-time fire fighter dies after being struck by pressurized SCUBA cylinder—Ohio. By Merinar TR. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018-10.
NIOSHTIC-2: **20056089** | NORA: Public Safety

NIOSH [2019]. Career Captain fatally shot and a fire fighter wounded by arsonist while responding to a fire alarm—California. By Bowyer ME, Hales T. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Fire Fighter Fatality Investigation and Prevention Report No. FACE-F2018–11.
NIOSHTIC-2: **20057542** | NORA: Public Safety

Health Hazard Evaluation Reports

NIOSH [2019]. Evaluation of exposures and respiratory health concerns in a paper converting equipment manufacturing facility. By Stanton ML, Nett RJ. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2012-0055-3337.
NIOSHTIC-2: **20054729**

NIOSH [2019]. Evaluation of exposure to radon and radon progeny in an underground tourist cavern and its connected buildings. By Zwack LM, Brueck SE, Anderson JL, Hammond DR. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2014-0158-3345.
NIOSHTIC-2: **20055987** | NORA: Services

NIOSH [2019]. Evaluation of wildland fire fighter exposures during fuel reduction projects. By Ramsey JG, Eisenberg J, Wiegand D, Brueck SE, McDowell TW. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2015-0028-3330.
NIOSHTIC-2: **20055365** | NORA: Services

NIOSH [2019]. Evaluation of noise exposures at a precast concrete manufacturer. By Li JF, Brueck SE. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2015-0133-3339.
NIOSHTIC-2: **20055129** | NORA: Services

NIOSH [2019]. Evaluation of ergonomics, chemical exposures, and ventilation at four nail salons. By Broadwater K, Chiu S. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2015-0139-3338.
NIOSHTIC-2: **20055183** | NORA: Services

NIOSH [2019]. Đánh giá ve the trang lao dong, phoi nhiem hóa chat và thông gió tai bon tiem làm móng. By Broadwater K, Chiu S. Cincinnati, OH: Bo Y te và Dich vu Nhân sinh Hoa Ky, Dich vu Y te Công cong, Trung tâm Kiem soát và Phòng ngua Dich benh, Vien Suc khoe và An toàn Lao dong Quoc gia, NIOSH Report No. HHE-2015-0139-3338_vie.
NIOSHTIC-2: **20058129** | NORA: Services

NIOSH [2019]. Evaluación de la ergonomía, las exposiciones a sustancias químicas y la ventilación en cuatro salones de manicura y pedicura. By Broadwater K, Chiu S. Cincinnati, OH: U.S. Departamento de Salud Y Servicios Humanos, Servicio de Salud Pública, Centros para el Control y la Prevención de Enfermedades, Instituto Nacional para la Seguridad y Salud Ocupacional, NIOSH Report No. HHE-2015-0139-3338spa.
NIOSHTIC-2: **20058126** | NORA: Services

NIOSH [2019]. Evaluation of a medicinal cannabis manufacturing facility with an indoor and outdoor grow operation. By Couch J, Wiegand D, Grimes GR, Green BJ, Lemons AR, Glassford E, Zwack L, Jackson SR, Beezhold D. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2016-0090-3317 (revised 08/2019).
NIOSHTIC-2: **20056908** | NORA: Healthcare and Social Assistance / Services

NIOSH [2019]. Evaluation of exposures and respiratory health at a coffee roasting and packaging facility and two off-site retail cafés. By McClelland T, Boylstein RJ, Martin SB Jr., Beaty M. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2016-0109-3343.
NIOSHTIC-2: **20055134**

NIOSH [2019]. Evaluation of exposures and respiratory health at a coffee roasting and packaging facility. By Harvey RR, Blackley BH, Martin SB Jr., Stanton ML. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2016-0164-3341.
NIOSHTIC-2: **20055133**

NIOSH [2019]. Evaluation of exposures and respiratory health at a rubber manufacturing facility. By Tomasi SE, Park J-H, Nett JR, Martin SB Jr., Bailey RL, Cox-Ganser JM. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2016-0227-3364.
NIOSHTIC-2: **20057747**

NIOSH [2019]. Evaluation of chemotherapy drug exposure in a veterinary specialty hospital. By Grant MP, Gibbins J. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2016-0231-3354.
NIOSHTIC-2: **20056971** | NORA: Services

NIOSH [2019]. Evaluation of exposure to metals and flame retardants at an electronics recycling company. By Grimes GR, Beaucham CC, Grant MP, Ramsey JG. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2016-0257-3333.
NIOSHTIC-2: **20055191**

NIOSH [2019]. Characterizing exposures during laser tattoo removal in a hospital dermatology center. By Grant MP, Glassford E, Green BJ, Lemons AR. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0006-3319 (revised 08/2019).
NIOSHTIC-2: **20056907** | NORA: Services

NIOSH [2019]. Evaluation of exposures to metals and flame retardants at an electronics recycling company. By Ramsey JG, Grimes GR, Beaucham CC. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0013-3356.
NIOSHTIC-2: **20057279** | NORA: Services

NIOSH [2019]. Evaluation of laser coding particulate composition, health effects, and safety climate at a brewery. By Broadwater K, Grimes GR, Wiegand DM. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0072-3347.
NIOSHTIC-2: **20055827** | NORA: Services

NIOSH [2019]. Evaluation of wildland fire fighters' exposures to asbestos during a prescribed burn. By Grant MP. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0076-3352.
NIOSHTIC-2: **20056304** | NORA: Services

NIOSH [2019]. Evaluation of waste anesthetic gas exposure and miscarriages at a veterinary hospital. By Li JF, Chiu S. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0077-3336.
NIOSHTIC-2: **20055027** | NORA: Services

NIOSH [2019]. Evaluation of exposure to a hydrogen peroxide, peracetic acid, and acetic acid containing cleaning and disinfection product and symptoms in hospital employees. By Blackley BH, Virji MA, Harvey RR, Cox-Ganser J, Nett RJ. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0114-3357.
NIOSHTIC-2: 20057074

NIOSH [2019]. Evaluation of exposures to metals and noise in a boat maintenance facility. By Grant MP, Jackson DA, Topmiller JL. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0127-3348.
NIOSHTIC-2: 20055649 **|** NORA: Services

NIOSH [2019]. Evaluation of police officers' exposure to secondhand cannabis smoke at open-air stadium events. By Wiegand DM, Methner MM, Grimes GR. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2017-0174-3335.
NIOSHTIC-2: 20055150 **|** NORA: Services

NIOSH [2019]. Evaluation of metal and noise exposures at an aircraft powerplant parts manufacturer. By Feldmann KD, Jackson DA. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0001-3349.
NIOSHTIC-2: 20055644 **|** NORA: Services

NIOSH [2019]. Evaluation of exposures to styrene during ultraviolet cured-in-place pipe installation. By LeBouf RF, Burns DA. Morgantown, WV: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0009-3334 (revised 03/2019).
NIOSHTIC-2: 20054226

NIOSH [2019]. Evaluation of exposures to styrene during ultraviolet cured-in-place pipe installation. By LeBouf RF, Burns DA. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0009-3334 (revised 03/2019).
NIOSHTIC-2: 20055321

NIOSH [2019]. Interim report: evaluation of occupational exposures to opioids, mental health symptoms, exposure to traumatic events, and job stress in a city fire department. By Chiu S, Wiegand DM, Broadwater K, Li JF. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0015b.
NIOSHTIC-2: **20055787** | NORA: Services

NIOSH [2019]. Evaluation of indoor environmental quality with limited surface sampling for metals at an office building. By Harvey RR. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0046-3346.
NIOSHTIC-2: **20055322**

NIOSH [2019]. Evaluation of exposures at a coffee roasting, flavoring, and packaging facility. By Blackley BH, Fortner A, Duling MG, Beaty MC. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0071-3342.
NIOSHTIC-2: **20055132**

NIOSH [2019]. Evaluation of exposures and health effects in fire fighters following response to a chemical fire. By Eisenberg J, Harvey RR, Feldmann KD. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0080-3350.
NIOSHTIC-2: **20055840** | NORA: Services

NIOSH [2019]. Evaluation of fire debris cleanup employees' exposure to silica, asbestos, metals, and polyaromatic hydrocarbons. By Beaucham C, Eisenberg J. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0094-3355.
NIOSHTIC-2: **20057066** | NORA: Services

NIOSH [2019]. Evaluation of lead and copper exposure at an indoor shooting range. By Grant MP, Reynolds L, Methner MM. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0124-3351.
NIOSHTIC-2: **20056099** | NORA: Services

NIOSH [2019]. Evaluation of potential occupational exposures to narcotics in a county evidence room. By Feldmann KD, Hatcher S. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0150-3340.
NIOSHTIC-2: **20055267** | NORA: Services

NIOSH [2019]. Evaluation of rhabdomyolysis and heat stroke in structural firefighter cadets. By Eisenberg J, Li JF, Feldmann KD. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0154-3361.
NIOSHTIC-2: **20057777** | NORA: Services

NIOSH [2019]. Evaluation of workplace exposures at a ceramic tile manufacturer. By Burr G. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0163-3344.
NIOSHTIC-2: **20055205** | NORA: Services

NIOSH [2019]. Evaluation of potential unintentional illicit drug exposure at a county jail. By Li JF, Mead K, Neu D. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2018-0175-3359.
NIOSHTIC-2: **20057628** | NORA: Services

NIOSH [2019]. Evaluation of push and pull forces and musculoskeletal symptoms among employees at an automobile manufacturer. By Ramsey J, Hatcher S, Lowe B, Hayden M, Salar-Barim M. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2019-0004-3363.
NIOSHTIC-2: **20058053** | NORA: Services

NIOSH [2019]. Evaluation of silica exposures during micro trenching. By Grant MP, Hammond DR. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2019-0020-3353.
NIOSHTIC-2: **20056742** | NORA: Services

NIOSH [2019]. Evaluation of ergonomics, dust, and unanticipated hazards at a donation and retail store. By Grant MP, Reynolds L. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2019-0108-3360.
NIOSHTIC-2: **20057474** | NORA: Services

NIOSH [2019]. Evaluation of health symptoms after a law enforcement operation. By Chiu S, Hornsby-Myers J, Trout D. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2019-0114-3358.
NIOSHTIC-2: **20057473**

NIOSH [2019]. Evaluation of low frequency noise, infrasound, and health symptoms at an administrative building and men's shelter. By Chiu S, Brueck SE, Wiegand DM, Free H. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2019-0119-3362.
NIOSHTIC-2: **20057719** | NORA: Services

NIOSH [2019]. Evaluation of silica exposures during drywall sanding. By Grant MP, Echt A, Echt H. Cincinnati, OH: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Report No. HHE-2019-0179-3365.
NIOSHTIC-2: **20058165** | NORA: Services

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